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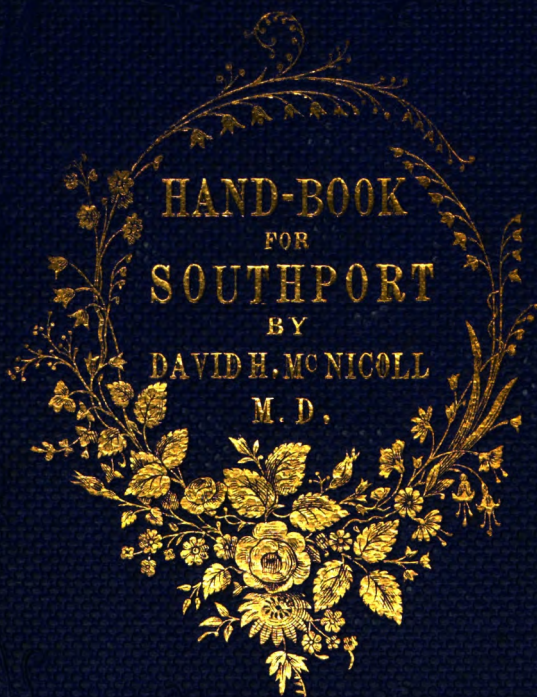
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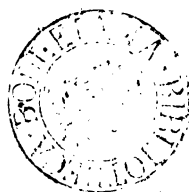


HAND-BOOK
FOR
SOUTHPORT
BY
DAVID H. MCNICOLL
M. D.

Gough Ad. Ad.
Lancashire

fr. 33.

HANDBOOK FOR SOUTHPORT.





1. ROUND-LEAVED WINTER GREEN.
(*Pyrola rotundifolia*.)

2. GRASS OF PARNASSUS.
(*Parnassia palustris*.)

3. ROUND-LEAVED BELL FLOWER
(*Campanula rotundifolia*.)

4. YELLOW HORNED PANSY OR HEARTSEASE.
(*Viola flavicornis*.)

A
HANDBOOK FOR SOUTHPORT,
MEDICAL AND GENERAL,
WITH
COPIOUS NOTICES OF THE NATURAL HISTORY
OF THE DISTRICT.

BY DAVID H. McNICOLL, M.D.,

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS; PHYSICIAN
TO THE SOUTHPORT SEA-BATHING INFIRMARY.

SECOND EDITION



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P R E F A C E .

THE rapid sale of the first edition of this little Handbook is sufficient evidence of the growing popularity of Southport as a sanitary resort. It has also imposed upon me the duty of improving these pages, which I have done as far as my ability and leisure would permit.

I need not apologise for the Natural History occupying so large a portion of the following pages. The motive has been a desire to encourage useful and agreeable mental occupation on the part of those visitors whose stay is more or less prolonged, and whose minds would, in the absence of some external object of thought, turn and prey upon themselves. This continual contemplation of their own condition—the result of the depression attendant upon disease, and absence from the ordinary engagements of life—needs to be carefully guarded against, and I have not thought it out of place in a medical work to suggest a substitute.

The mode of procedure has been first to record the result of personal enquiry and observation, and then to compare these with previous attempts of the same kind. In this I have received the most essential aid from my venerable friend Mr. Graves, who has been my frequent companion in exploring expeditions, and my constant adviser in difficulties arising from contending authorities. The Botanical list thus procured was collated and enriched by comparison with a MS. list kindly furnished by Dr. J. B. Wood, of Broughton, whose extensive knowledge of the plants of this locality and original labours in certain departments of general Botany, are well known. Mr. Henry Aughton's list, as it is called (though disavowed by him), has been consulted, and he has cheerfully answered all enquiries put to him. Several plants are entered on his sole authority. The list of Birds was made on the same plan of combined observation and testimony, the valuable list of Mr. Tyrer being freely used for the purpose. I have to acknowledge, with thanks, the assistance for which I am indebted to James Glover, Esq., J.P., and to Mr. J. A. Robinson, the latter of whom has obligingly furnished me with the chapter on Excursions in the neighbourhood of Southport.

My special acknowledgments are also due to Mr. Charles H. Brown, who has found time (as may always be done where

there is the will) to combine due attention to business with pursuits of a refining and elevating tendency, and without whose aid the List of Shells would have been much less perfect.

SOUTH LAWN, SOUTHPORT,
June 11th, 1861.

CHAPTER I.

—— Through days and weeks
Of hope, that grew by stealth,
How many wan and faded cheeks
Have kindled into health !
The old, by thee revived, have said,
“ Another year is ours ! ”
And way-worn wanderers, poorly fed,
Have smiled upon thy flowers.

WORDSWORTH.

ORIGIN AND GROWTH OF SOUTHPORT.

SOUTHPORT is situated on that part of the west coast of Lancashire which lies between the mouths of the Mersey and the Ribble. This coast presents to the eye an almost continuous range of sandhills, with a broad belt of level sand of varying extent, stretching from this hilly boundary to the water. It is distant, by rail, 18 miles from Liverpool, 32 from Manchester, 27 from Bolton, and 17 from Wigan. The nearest town is Ormskirk, 11 miles to the east, and the chief external peculiarity of its church, which possesses both a tower and a steeple, can be generally seen from many parts of Southport, the intervening country being perfectly level. The geographical position of Southport is $53^{\circ} 38' 40''$ north latitude, and $2^{\circ} 59' 45''$ west longitude.

As to the etymology of the name of the parish, North Meols, there has been some controversy. Mr. Glazebrook, who in the year 1809 wrote the first Guide to Southport, indulged in a very far-fetched and extravagant speculation. "The sand," he says, "from its minuteness and similarity in appearance to *mealy flour*, must have suggested the name of Meols;" and he adds, "if this is the case, the spelling is according to the provincial pronunciation, without any reference to the word from whence it is derived." This is a somewhat Hibernian explanation, and although it is an historical fact that potatoes were first grown in this part, being procured from a wreck which occurred on the coast, yet we cannot be convinced that the name is derived from any resemblance to the mealiness of the succulent vegetable, or of any kind of corn. Mr. Baines states it to be a Saxon word, meaning sandhills. In Kersey's "Dictionarium Anglo-Britannicum," London, 1708, we find "**Mæals** or **Males**, the shelves or banks of sand on the sea-coasts of Norfolk." In a subsequent and enlarged edition of Mr. Glazebrook's Guide, he says, "A suggestion which appears to me highly probable, was lately made, viz., that it was perhaps derived originally from two Greek words, Μη, not, and Αλς, sea, *i.e.*, *me-als*, "not sea," or "no longer sea." This will never do; a parish more innocent of Greek than North Meols in the olden time it is impossible to conceive. Mr. Baines's explanation is doubtless the correct one.

The chief points in the gradual and rapid progress of Southport towards its present prominent position in public favour, are soon told. We have only to suppose the sandhills of Birkdale prolonged until they meet those at the north of

the town—a succession of connected valleys, with pools of water and a variegated carpeting of moss, extending along the present site of Lord-street, with here and there a narrow road leading to the shore—and we have a picture of the place as it might have been seen any time till near the end of the last century. The cottages of a few fishermen stood then, as now, about half a mile back from the beach, and the narrow footpaths which led thither were seldom trod by any but these industrious strugglers with the fickle ocean.

But even at that period the advantage of sea-bathing was not unknown in the cure of disease, and the invalids of Manchester and the neighbouring manufacturing towns were occasionally sent to this part of the coast for the purpose. They chiefly resided at Churchtown, and in the cottages dotted over the country side, and were conveyed in carts or other vehicles, when the tide served, to their appointed bathing-places at The Hawes, the name by which this part of the coast was then known. As the visitors increased in numbers, the inconvenience of thus travelling two or three miles over rough unformed sandy roads began to be felt, and as in such cases some far-seeing or enterprising man is generally wanted to play the part of an obscure Columbus, such an one appeared in the person of a Mr. William Sutton. He was host of one of the two inns at Churchtown, and was accustomed to provide accommodation and conveyance for the visitors of whom we have spoken. About the year 1792, to the amazement, and it would appear to the amusement, of his neighbours, he began to build a small wooden house, which, gradually enlarged to very moderate dimensions, became the first inn for the accommodation of the public, under the name

of the King's Arms, afterwards changed to the Original Royal Hotel, and which remained till the construction of the new road to Birkdale, about five or six years since, necessitated its removal. The popular name of Mr. Sutton was "The Duke," and it will surprise no reader that the result of his enterprise, then thought to be in the highest degree romantic, was named the "Duke's Folly." Not only, however, was he doomed to experience the usual fate of those who are in advance of their times, as shown by this nickname; but his future history was in accordance with that of too many of his class. After living to see the place which he founded become a thriving village, without partaking of the prosperity around him, he died in 1841, in very reduced circumstances.

The ornamental lamp-post at the end of Lord-street stands upon part of the grounds of the Original Hotel, and is a memorial of the enterprising but unfortunate "Old Duke."

The name of Southport was given by Mr. Barton, a retired surgeon from Ormskirk, and one of the earliest admirers of the place, at the entertainment given by Mr. Sutton on the occasion of the opening of his house. Notwithstanding the doubts entertained of the prudence of Mr. Sutton, it was soon found that a real want existed, which he had only partially met. Marine cottages soon began to multiply, at first for the accommodation of more visitors, and presently individuals whose families had derived benefit from the salubrity of the place erected permanent residences. Amongst these we find the names of Mrs. Walmsley, Mr. Barton, Mr. Nevill, &c., whose example was speedily followed by others too numerous to mention. The demand for accommodation rapidly in-

creasing, another inn was deemed necessary, and the Union Hotel was built about the year 1807. The first row of buildings erected with a special view to the reception of company upon a scale of any importance, was the Union Buildings in 1807. This movement was followed by the appearance of Wellington Buildings in 1818, by which time numerous private houses had appeared, and Southport had taken its place upon the full tide of prosperity, which has had no distinct check since then, although the ratio of its progress has been greater in the last few years.

The most important step taken towards the formation of the future town, was in 1825, when an Act of Parliament was obtained by the lords of the manor, the necessary arrangements for the purpose being entrusted to the then agents, whose successor, Mr. Richard Wright, has for many years held the position of agent to the owners of the soil, and has ably carried out their views. The chief feature in these plans was the formation of Lord-street, which is a wide central Broadway, a mile and fifty yards long, and is acknowledged to be one of the finest architectural vistas anywhere to be seen. It reaches from Peter-street to the boundary of Birkdale, and when, in the evening, lighted up by gaslights, fifty yards apart, it presents an unusually interesting *coup d'œil* arising from its great length, its remarkable straightness, and its being so level that it is stated there is not more than one inch of elevation or depression between the ends. Although there are many exceptions, the houses are mostly of an early and old-fashioned class, but when the leases fall out, as they are now rapidly doing, the great advantage of so fine a frontage and the ample space of ground left about the houses, will no

doubt lead to the erection of a superior class of buildings. When this takes place, and especially should an oft-repeated suggestion of regularly planting one or both sides with trees be acted upon, no town in England will present an avenue more attractive and splendid.

The houses in Southport are arranged in five parallel lines of streets—the Promenade and New Bath-street, between Lord-street and the shore; and the remaining two, Hoghton-street and Scarisbrick-street, on the landward side of that main artery. There is a great regularity in all the new buildings, and the prevalence of bay windows does something to break what would be otherwise an unpleasant uniformity.

The Promenade faces the shore, and is remarkable both for the handsome elevation of the houses built thereon, and for the facilities it affords for enjoying the bracing breezes, as they come wafted from the wide and open sea, bringing health and vigour on their wings. It was about the year 1834, that Peter Hesketh Fleetwood, Esq., projected and first caused to be constructed “a wall and sea-fence, with a footpath, walk, or Promenade, and a distinct carriage and horse road,” extending about four hundred yards along from Nevill-street towards Coronation-walk, and he leased for ninety-nine years the land fronting the intended Promenade, covenanting with the lessees to keep the same in repair during the said term. Sir Henry Bold Hoghton, the owner of the land in continuation along the Promenade to Coronation-walk, appears shortly afterwards to have leased the same to a Mr. Hill upon somewhat similar terms. In the year 1837, Sir H. B. Hoghton leased to the Victoria Baths Company the land from Nevill-street to Sea-

bank-road, the Company covenanting within ten years to "build a good and substantial sea-wall, of such and the like materials, strength, and durability, as the sea-wall lately erected by Peter Hesketh Fleetwood, Esq., and maintain and keep the same in repair during the said term." Charles Scarisbrick, Esq., in or about 1843, purchased the fee simple in remainder of all the property before mentioned, and thereupon became possessed of all control over the same. Mr. Scarisbrick also purchased the leasehold interest of several of the lessees under Mr. Hesketh Fleetwood, and the entire interest of Mr. Hill, the sole lessee under Sir H. B. Hoghton, and thereby became bound to construct the sea-wall, and keep the same and the Promenade and carriage-drive, from Nevill-street to Coronation-walk, in repair. Some portions of the land between Nevill-street and Coronation-walk have since been leased by Mr. Scarisbrick or sold in fee; and the respective lessees or purchasers have consented to "uphold, maintain, and keep in good, sufficient, and substantial order and condition," the present wall and sea-fence or slope, and also to "maintain and keep the present footpath, walk, or promenade, and also the carriage and horse road or drive." In November, 1845, the Baths Company purchased from Mr. Scarisbrick the reversion of the land leased to them by Sir H. B. Hoghton; and, at the same time, entered into similar covenants for keeping in repair the sea-wall, promenade, &c., together with "the posts, chains, and rails." In order more effectually to enable Mr. Scarisbrick to enforce all these covenants, a high rent was reserved on each plot, but which ceased to be payable when and so long as the covenants were duly performed. The Promenade was long allowed to remain in a dilapidated condi-

tion, but its effectual reparation having been very satisfactorily completed, its future management has been taken by the local authorities, and it is now a delightful place of resort for the purposes which its name indicates. From end to end, the Promenade is nine hundred and sixty yards long; and, with a tiled footpath from the boundaries of the houses, a carriage drive, and a well-laid asphalted walking way, there are few such esplanades to be found in England. From the Promenade a splendid view is obtained of varied objects of attraction and interest. Seaward, vessels may continually be descried ploughing their way through the great waters, and giving life and beauty to the scene. The Isle of Man can occasionally be distinguished in a north-westerly direction, but the opportunities for seeing the island are rare, and perhaps the less frequently they occur the better, as the phenomenon is said to be invariably followed by tempestuous weather. The Cumberland and Westmoreland mountains are distinctly seen looming in the distance, the Black Coombe, which is 1919 feet above the level of the sea, into which it appears to dip, being the most conspicuous of the whole range. The hills in the neighbourhood of Lancaster, with Longridge Fell, range about north-east; and in a more easterly direction Rivington Pike marks the horizon. These hills, Mr. Glazebrook tells us, form part of that grand chain of hills extending north and south from the borders of Scotland to the centre of Derbyshire. The different portions of this chain are at present known under various local names, but the Roman colonists of Britain, whose attention so prominent a feature in the physical geography of the island could not escape, denominated them the Penine Alps, as appears from the following passage in Richard of

Cirencester's description of the Roman state of Britain; he is treating of the Roman province Maxima, which includes all the northern counties of present England:—" *Totam in aequales fere partes provinciam dividunt montes Alpes Penini dicti. Hi ad fluvium Trivonam surgentes, continuâ serie per milliaria septentrionem decurrent.*" "The mountains called the Penine Alps divide the province into almost equal parts. These, rising near the river Trent, run towards the north in a continued line for 150 miles." Turning to the west, the bold range of Welsh mountains rivets the attention and delights the eye. Snowdon is seen to

————— Lift its awful form,
Swell from the vale, and midway leave the storm.

On the Promenade there are two Hotels, the Victoria and the Royal; the Baths Company's extensive premises are also situated here, and the commodious building erected for the Strangers' Charity stands in a line with the houses on the Promenade.

The project of a Pier, to extend to low water or thereabouts, was mooted some ten years ago, when a prospectus was issued and a tolerable number of shares were taken up; the affair, however, ultimately languished, to be revived under more auspicious circumstances in 1858. In the latter part of that year a few energetic tradesmen and gentlemen again met for the purpose of establishing a Pier Company, for which the "Limited Liability Act" gave great facilities. After some preliminary meetings, at which various projects were discussed, it was at length resolved to recommend an iron pier; a public meeting of the inhabitants was accordingly called at the Town Hall, on the 17th March, 1859, Dr. Wood,

chairman of the Commissioners, presiding. The report presented by the committee to this meeting, recommended the erection of "a pier or promenade, to commence from near the centre of the western portion of the present promenade, and extending thence to low water, a distance of twelve hundred yards." The report further recommended a plan furnished by Messrs. J. and W. Galloway, of Manchester (the invention of James Brunlees, Esq., C.E., of London), as most suitable, the estimated cost of which was about £8,000, and from calculations it was thought would produce a revenue of nearly nine per cent. A large number of shares at £5 each were immediately subscribed for, and the company was speedily registered, estimates advertised for, and eventually that of Messrs. Galloway accepted. The works were commenced, and had proceeded to a considerable distance, when it was found that a portion of the lattice bars was too weak, and the services of W. Fairbairn, Esq., F.R.S., the eminent civil engineer, of Manchester, were called in to devise some new mode for strengthening the pier. His plans were adopted, the weak portion of the work taken down, and re-erected in a more substantial, and therefore more costly manner. The capital of the company was consequently increased from £8,000 to £10,000. The whole additional capital was immediately subscribed for.

A brief description of the Pier may not be out of place, inasmuch as there is no similar structure existing, with the exception of two viaducts at Morecambe Bay. The iron piles are seven inches in diameter, the sunken pile having a disc or shoe of eighteen inches in diameter at its lower end, with a small aperture through the same. In sinking these piles

hydraulic power was used, by forcing down a stream of water obtained from the Waterworks pipes, which were laid down the shore for the purpose, through the pile—a quicksand was formed underneath, and the pile rapidly sank to the requisite depth, being guided in its descent by a moveable framework. Two other lengths of piles are screwed to the sunken pile, each seven feet long; the piles are in rows of threes, the two outer piles slightly inclining inwards; they are strongly secured together by iron tie-rods; the rows of piles are fifty feet asunder, and the total length is three thousand six hundred feet, terminated at the sea-end by an enlarged platform one hundred feet long by thirty feet wide; the width of the footpath is fifteen feet clear, and is formed of planks seven inches broad by three thick, placed one inch apart, except at the shore and platform ends, where they are only half an inch apart. A substantial hand-rail and very light iron work serve as a protection against any accidents. The toll tower is built of ashlar, and forms a neat appendage to the fairy-like structure which is a credit to its promoters and an ornament to the town.

The most strange perplexity has arisen from the increased numbers of the few families by whom this solitary neighbourhood was, in the first place, peopled. These descendants of the aboriginal inhabitants demand a passing notice. Wrights, Balls, and Rimmers (Rymer is the orthography in the old parish register) now abound in distracting confusion, and there is no doubt that these three names are those of the families which originally settled on these shores. They are supposed to have subsisted by following the occupation of fishing, as many of the inheritors of their names do to the

present day. It is said that up to a recent period, the privilege of descent from the veritable "old stock" was highly prized and religiously respected, and that "outcomelings" (as strangers or new settlers were once designated) were regarded with compassionate condescension. This and the more questionable feelings of jealousy and suspicion by which it was too often accompanied, have, however, been most effectually rubbed out by constant contact with fresh importations. As an instance of the strange complications which are the consequence of the number of families who bear the same name, we may mention the fact that in one society, having about three hundred members, there are no less than seven William Balls, and Wrights and Rimmers without end. They are distinguished from each other by numerals attached to their names, in the order of their respective seniority of membership; but it is still requisite, for the sake of perfect identity and distinction, to resort to an ingenious practice of mentioning the names of their progenitors for generations gone by. Thus it is common to meet with "Tommy's Jem's Davy's Jem," and "Nell's Dick's Tom." "Katty's Dick" is a well-known warrener, and "Dicky-under-th'-hill" was a respectable farmer. So accustomed are the native Meols-men to this mode of discrimination that many of them would puzzle long to direct you to John Wright, and wonder whoever such an individual could be, whilst the person meant might be their own parent, and very readily discoverable under such an appellation as "Priscilla's John."

The means for the moral improvement and education of the inhabitants are provided in gratifying abundance. There are four Churches, auxiliary to the Parish Church, as well as a

Roman Catholic, a Wesleyan, and an Independent Chapel, and a Friends' Meeting House; and we believe that all have attached to them Sunday Schools, and most of them Day Schools. The decorum and quietness observable on Sundays strikes most strangers, and the amount of crime with which the local magistracy have to deal is small indeed when the number of inhabitants is considered.

Although it is not needful to specify those institutions which are common to other localities, there are two so peculiar to the place that they deserve special reference; these are, the Sea Bathing Infirmary, or Strangers' Charity, and the Marine Fund.

The Strangers' Charity dates from a very early period in the progress of Southport. In the year 1806, some benevolent ladies, among whom the late Mrs. Halsall, Miss Leigh, and Miss Johnson were prominent, established a charitable fund on a small scale, with a view to enable the poor from the larger towns to receive the benefit of sea air and sea bathing, by a weekly payment towards their expenses. The name of Miles Barton was early connected with the infant institution, and the late Thomas Ridgway, Esq., of Horwich, near Bolton, became so active a friend of the Charity, as to be called its founder, and shortly after, Mr. Nevill, of Wigan, gave to it much of his time and energy.

From these small beginnings the institution has continued to grow and prosper, until it has become the second of the kind in the kingdom, being exceeded in extent only by the Margate Royal Sea Bathing Infirmary. It numbers among its active supporters some of the most philanthropic characters in several of the larger towns, and is aided by many of the

great landholders and extensive manufacturers in the county, as well as by many of the clergy. During the past year, 1454 patients partook of the advantages it has to offer. Its medical service is performed by two Physicians and three Surgeons. Since the erection of the new Building in Seabank-road, in May, 1853, till recently, the mode of carrying on the institution has been this :—each patient was admitted for a period of three weeks, by virtue of a recommendation from his patron, and became entitled to lodging, medical attendance, medicines, and hot and cold sea-baths, with an allowance of five shillings a week for his food, for the preparation of which ample accommodation was afforded ; in case of the building being full, and the patient having to lodge out, seven shillings a week were allowed. The system has recently been improved, the food being provided for the patients, thus doing away with the improvidence and inaptness in making provision so prevalent amongst the labouring classes. Each recommendation costs twenty-four shillings, and may be renewed at the expiration of the term in favour of the same person, if the case will justify it, and the patron is willing. The business is conducted by a Board, who sit every Thursday for the admission of applicants, under the presidency of the indefatigable Treasurer, Mr. George Darwell, who succeeded his brother, the late lamented Mr. James Darwell, in that onerous office.

The Marine Fund was established at Southport, in the year 1817. Like other charities it has its office-bearers, who are responsible for its integrity and administration.

The following extracts will put the reader in possession of the motives of its originators, the course adopted for its establishment, and the principal rules passed for its management:—

“The object of this Charity is to reward the inhabitants of this Parish who save, or attempt to save, Lives and Property in cases of shipwreck, and who give assistance to vessels in distress.

“For this purpose it is proposed annually to solicit the contributions of those who visit Southport, and it is hoped that in the course of a few years a fund will be created the interest of which will be sufficient to meet the claims that may be made.

“1. A reward will be given for the life of each person saved from a wreck.

“2. A reward will be given of £2 10s. to the first boat that reaches a vessel in distress, or gives effectual assistance.

“3. A reward will be given to the second boat of £2, and to the third the sum of £1 1s.

“4. Independent of the sum each boat may be entitled to, a further reward will be given for every life saved, as expressed in the first rule.

“5. The Committee reserves to itself, in every instance, the power of increasing or diminishing, or entirely withholding premiums, according to the circumstances of the case.”

Subscriptions to a greater or less amount continued to be received up to the year 1837. The principal sum, which may be said to have gradually increased, more especially of late, is now £500. The calls upon this excellent Charity have varied of course in frequency, but scarcely a single year since its foundation seems to have passed, in which at least one successful claim to its bounty has not been established.

Greatly improved arrangements have now been made in connection with the saving of life from shipwrecks on this

coast. Southport has recently been made a station of the Royal National Life-Boat Institution. The price of a new boat and transporting-carriage having been generously placed at the service of the society by James Knowles, Esq., Eagley Bank, Bolton, the managers decided to adopt Southport as a station, on condition that local efforts should be made towards the cost of the requisite building, and the annual expenditure to be incurred; this appeal was followed by a subscription somewhat over £200. A double crew will be selected, and the men will be exercised four times a year. The erection has been placed in a convenient spot a little to the south of the Promenade.

The Royal National Life-Boat Association has turned its attention to the important question of the approach of storms, as indicated by the readings of the barometer, together with the course of the wind, and has published certain data which have in practice been found tolerably correct. They have also induced Messrs. Zambra and Negretti to prepare a coast barometer, giving these special indications. With the view of giving effect to this admirable design, and for the advantage of the new life-boat crew, John Fernley, Esq., of Birkdale, has generously placed one in a pillar on the Promenade, near the bridge, and opposite the entrance to the Pier, that being the spot most frequented by those fishermen who would form the life-boat crew. The barometer is placed on the side opposite the sea, a drinking fountain on the one opposite the South Promenade, and on the two other sides are engraved the instructions which are necessary in order to understand the indications of the barometer. Readings of the instrument are intended to be taken twice a day, so as to form a permanent

record of atmospheric variations. The design is Venetian, and is executed in Yorkshire stone, with Aberdeen granite columns and carved caps at the four angles, standing on a dado or plinth, and supporting the upper part with a circular pediment on the two corresponding sides, on the top of which is placed a vane, the base supported by carved dolphins. The front face towards the sea (in which the barometer is placed) is recessed, the side faces being similarly treated. The drinking fountain is a basin of granite, lined at the back with Minton's encaustic tiles.

The present owners of the land on which Southport, and, in fact, the whole Township of North Meols stands, are the representatives of the late Charles Scarisbrick, Esq., of Scarisbrick Hall, and the Rev. Charles Hesketh, M.A., the latter of whom is Rector of the Parish. The Hesketh family, who were the builders of Meols Hall—now a farm-house in the occupation of Mr. Thomas Baker,—were the original proprietors of the soil. Nicholas Hesketh died, leaving only two daughters, between whom the estate was left in moiety. One of these daughters married into the family of Bold, of Bold Hall, and the other into the Fleetwood family, of Rossall Hall. A division was thus made for the first time, and the arrangement remained undisturbed until the time of Peter Patten Bold, Esq., who, by verbal agreement, exchanged some farms with his co-proprietor. Robert Hesketh, Esq., (the father of the present Rector) and Mary Patten Bold (afterwards the Princess Sapieha) made some further exchanges. After the death of the Princess, the estates came into the possession of Sir Henry Bold Houghton, Bart., and his wife Dorothea; and Peter Hesketh, Esq., (the present Sir Peter Hesketh

Fleetwood, Bart.) inherited his father's interest in the parish. Between these two owners a systematic arrangement for the exchange of land, so as to avoid the intricate intermixture of farms and fields, was effected, and subsequently (in the year 1825) sanctioned by Act of Parliament. Sir Henry Bold Hoghton's eldest son afterwards sold his Meols estate to the late Charles Scarisbrick, Esq., of Scarisbrick Hall, who took possession in February, 1844; and somewhere about the same time the Rev. Charles Hesketh purchased his brother's interest in the property.

The immediate vicinity presents no scenes of picturesque beauty to captivate the eye. Excepting the sandhills, the country around is perfectly flat, the vegetation is scanty, and the trees are of small dimensions, often bending away from the sea. Nevertheless, the views of distant mountain scenery, both from the Promenade and from the inland side of the town, are pleasing and interesting, and when seen in early morning or on a clear evening, have a peculiar charm. To a stranger, the series of deep cuttings through the mosses, forming part of a vast system of drainage, forms one of the most remarkable peculiarities of the district. They all converge towards Crossens, where is the outlet of the waters from the flat land as well as of the former Martin Mere. This last inland lake was formerly of great extent, and was called by Leland, three hundred years ago, "the greatest meare" of Lancashire. Camden, forty years after, says, "Near the mouth of the Dougless is an extensive meer called Merton, which discharges itself at a mouth of its own, and presently after meets the Ribble in its estuary." The various attempts at the drainage of this large mass of water, of which little besides the

name now remains, are amongst the most interesting narratives of the gradual improvement of engineering science on record, though we can do little more than refer to them. The first serious attempt to drain Martin Mere was made by Thomas Fleetwood, Esq., of Bank Hall, who, in the year 1692, obtained an Act of Parliament for the purpose. He began his operations by making a canal or sluice, 24ft. wide, from the Ribble mouth through an embanked saltmarsh, and then through a moss or bog, in North Meols, about a mile and a half in length; and this canal he continued through the lowest part of the mere. To prevent the sea from rushing up the canal and overflowing the mere, which was 10ft. lower than high water-mark at the spring tides, he erected in this canal, near the sea, a pair of flood gates, which shut when the sea water rose higher than those in the canal, and opened again by the sluice stream when the sea retired. Some further operations took place in 1714, and the measures then adopted promised effectually to dry that land which had probably been inundated ever since the deluge. Three years afterwards Mr. Fleetwood died, entertaining the belief, which his family fondly cherished, that he had effected the great object of his life; and a monument is erected to his memory in the parish church of North Meols, bearing a Latin inscription, which announces that "he wished his remains to be buried here, because he had drained and made into solid land the immense Martinensian marsh, having taken off the water by a fosse to the neighbouring sea." The inscription adds, that "he executed this work, which our ancestors durst not attempt, and which posterity will scarcely believe, at a very great expense, and with a view to the public good, not his own." It will be easily supposed that the expense was

indeed great, when it is stated that not fewer than 2000 workmen were sometimes employed upon this gigantic undertaking. Eight ancient British canoes were found during the progress of the drainage (one is now in the British Museum), some containing plates of iron. About the same time, some other ancient remains were discovered, of which Dr. Leigh has given engravings in his *Natural History of Lancashire*, with the remark, "I look upon them to be the greatest relics of antiquity in the universe."

Unhappily, all Mr. Fleetwood's labours were in vain ; a few years after his lease expired, the flood gates and walls at the entrance of the canal were washed down by an unusually high tide, and things appear to have gradually reverted to their ancient state.

The late Thomas Eccleston, Esq., of Scarisbrick, undismayed by the failure of this enterprise, began operations with a similar view, in the year 1781, the account of which will be found in the 7th volume of the "*Transactions of the Society for the Encouragement of Arts, Manufacture, and Commerce.*" The success of the plan was such that, in the year 1784, several acres of the reclaimed land were sown with spring corn, and yielded a tolerable produce. The year after, barley and oats were sown, and sold for £11 the Cheshire acre, the purchaser to cut and carry off the crops at his own expense, though a few years before the land did not let for more than four shillings the acre.

We cannot enlarge upon the subsequent means adopted to recover a vast acreage of valuable land. It is sufficient to say *Martin Mere* exists now only in name.

The village of North Meols, or more generally Churchtown, the parish church being situated here, is about two miles from Southport, and is much frequented during the season for its extensive strawberry gardens. The church is a plain structure, and contains, amongst other monuments, four marble tablets to the memory of as many members of the Fleetwood and Hesketh families, one of them by Nollekens. North Meols Hall, a lofty brick building, formerly the residence of the Heskeths, lies a little to the south of the church, and is occupied as a farmhouse. The village consists of one large irregular street of houses, principally thatched. Many of the inhabitants are engaged in fishing and agriculture, whilst others are occupied in silk weaving, under the direction of agents from Ormskirk and Preston; an occupation one would hardly have expected to find in a locality so far removed from manufactures.

CHAPTER II.

When the extent of benefit which may be derived from occasional change of air, both to the physical and moral constitution, is duly estimated, no person whose circumstances permit will neglect to avail himself of it.—SIR JAMES CLARK.

SOUTHPORT AS A RESORT FOR INVALIDS.

GENERAL REMARKS ON CLIMATE—GEOLOGY OF THE DISTRICT—
LOCAL CLIMATE OF SOUTHPORT.

THERE can be no doubt that the British Islands only existed in former times subject to the rigours of a Polar climate. At this period our island was a scattered archipelago of murky misty islets, its chief phenomena the mighty crushing glacier, and the electrical flashings of Boreal lights. By what means and through what processes they have been brought to their present state is in some measure open to conjecture—the most probable being changes in ancient sea levels, and the establishment of strongly defined ocean currents from the mass of heated water round the Equator.

The position of the British Islands on the map, and the extraordinarily mild temperature they enjoy, are so contradic-

tory that it might puzzle the theorist, as well as the practical man, if he attempted to explain it, without taking into his calculation the above all-important cosmical influences. Within a few degrees of the region of perpetual snow, it has an atmosphere equal to that of any part of the temperate zone. To tell the nervous, the consumptive, or the hypochondriac that they are living in a country about the same distance from the Arctic Circle as are the inhabitants of Labrador and Kamtschatka would at the least add an extra chill; to tell the delicate invalid hastening to the sheltered coast of Devonshire that he is fixing his winter dwelling to the northward of the latitude of the Banks of Newfoundland, would certainly impart an unwelcome shock to his sensibilities; but isothermal lines are not coincident with parallels of latitude, and the modifying circumstances of climate do more than correct the evils of position—they very often introduce a bland and salubrious element in situations of the most unpromising description.

The insular position of these islands, after all, would be of little avail had they not some more vital bond of union with more genial climes. That magic "circle of marriage with all nations" would form but an icy bond were there not some deep mysterious hidden currents bringing life and warmth to our coasts. The extent of influence possessed by the great gulf-stream in these climatic modifications is not yet fully understood; but there can be no doubt that it has had a large share in the changes to which we refer.

A nation and its destiny may be linked by very slender threads. Should any deep mysterious but all-potent cause ever throw those mighty activities into new and unaccustomed channels, thereby producing startling changes of local climate,

the historian's fancy-sketch of the meditative New Zealander may be realised by means of agencies of which he never dreamed.

It may be stated generally that the sanitary condition of most towns in this country is not altogether dependent upon their aspect, population, manufactures, &c. It is probable that the substratum on which they are placed has more to do with the singular discrepancies found in the Registrar General's Reports, in regard to the ratio of mortality, than is commonly believed. In this way we may account for at least a portion of the difference between Liverpool and Manchester, Birmingham and Bath, Glasgow and Bristol, &c.

The effect of proximity to the sea in softening and warming a climate has long been recognised. Owing to the penetrability of water by radiant heat, and the perpetual agitation and intermixture of its superficial strata, its changes of temperature are neither so extensive nor so sudden as those of the land. An island is always found to possess a milder air than land in the same parallel of latitude forming part of a continent. Where the island or coast is at the same time distant from mountainous country, the amelioration is still more striking. On this subject Sir Charles Lyell well observes,—“The ocean has a tendency to preserve everywhere a mean temperature, which it communicates to the contiguous land, so that it tempers the climate, moderating alike an excess of heat and cold. The elevated land, on the other hand, rising to the colder regions of the atmosphere, becomes a great reservoir of ice and snow; arrests, condenses, and congeals vapour, and communicates its cold to the adjoining country. For this reason, Greenland, forming part of a continent which stretches

northward to the 82nd degree of latitude, experiences under the 60th parallel a more rigorous climate than Lapland under the 72nd parallel." In addition to this general result of proximity to great masses of the ocean, some localities derive additional benefit from certain great marine currents which transport their waters from about the Equator. It is generally believed that the water encircling our shores during the winter months is some degrees warmer than our atmosphere. It is also considered that the west coast of our island is milder than the east coast. Why this should be so is not easily explained, without bringing into the question the qualifying influences supposed to be derived from the currents of heated water setting from the Equator. Neither from the winds that blow nor the sun that shines can these differences be accounted for. It is not a theory but a positive fact that a portion of the gulf stream impinges on the west coast of Ireland, bearing abundant traces on its bosom, in the shape of tropical weeds and plants, of the hot latitude from which it has travelled. There is, indeed, little doubt that these shores would enjoy a much milder climate than they do at present did they not contribute to the sea so many large rivers fresh from the hills, serving to put a barrier of cold water round our shores, and absorbing the surplus heat from the warm currents. Many significant data might be procured if proper observations were made at such parts of our coasts as are favourable to the required experiments. Many of our fashionable summer resorts on the coast would be found to owe the peculiar mildness of their climate to the proximity of these currents, and to the absence of any great outlet of fresh water into the sea.

The data derived from some observations on the channel waters off Southport, though as yet too limited in number to lead to any decided generalisation, tend to strengthen this view. Any strong sea currents setting over the west coast of Ireland would be deflected towards the estuary of the Mersey, and as the currents of the Dee and Mersey would prevent them ascending those channels, these waters would be pressed towards the north, and would tend to scoop out a wide bay on that part of the coast, as we find has been done.

The fact has been *proved*, that while the *deep* sea water in the channels remains of an average temperature, that of the flood tidal-water coming over the banks is higher than either the sea or the air. Having no fresh water to meet (we speak of that part of the coast directly opposite Southport, and out of the influence of the Mersey and the Ribble) it gives out its surplus temperature, and is probably one cause of the mildness and salubrity of Southport in the winter.

The scanty supply of trees, and those of small dimensions, found near the sea side, though to some extent it mars the beauty of a neighbourhood, is in reality of considerable sanitary importance, and is an instance of those compensating arrangements so often found in nature. The growth of large trees implies the presence of much moisture in the ground, and is the cause of much moisture and coldness in the atmosphere. Any impediment to the free circulation of air, or any screen which shades the earth from the solar rays, becomes a source of humidity; and wherever dampness and cold have begun to be generated by such causes, the condensation of vapour continues. This is especially the case where the aqueous vapour in the atmosphere is great, and the

direct rays of the sun are powerful. Humidity is always found to be increased, and to be more uniformly diffused throughout the year, in proportion to the gradual spreading of wood. The evidence in support of these statements is ample; thus in Barbadoes and Jamaica the felling of forests has greatly diminished the quantity of rain; the climate of Tuscany has become warmer in winter and colder in summer from the same cause; and the rapid clearing of the country in the United States of America is gradually producing the same results. Although it is doubtful whether the *mean* temperature has been raised in these cases, there can be no doubt that the extreme temperature of midsummer and midwinter have been brought nearer to each other. In this way the diminution of forests has been followed by results similar to those which follow the drainage, on a large scale, of any tract of moist country. The beneficial effects of the lessening of extreme vicissitudes of temperature upon the human frame must be readily apparent.

Southport is situated upon the edge of a series of recent deposits overlying the western edge of the Trias or New Red Sandstone of the south of Lancashire. The rocks of the latter form the high ground towards Ormskirk and Liverpool. The extent of these diluvial deposits is perceptible in the low flat land extending from Waterloo to the north of Southport. From sections in the course of streams and in artificial openings we find four or five feet of peat or dark vegetable soil, reposing upon sand for a considerable depth down to the New Red Sandstone. The surface of the peat beds appears to dip towards the sea, and is usually covered with sand to the extent of three or four feet near the coast line. More inland,

the peat beds form the surface of the ground, turf being there collected for fuel. At Formby the peat is seen upon the shore, and in other places numerous stumps of trees indicate the site of an ancient forest.

It has usually been considered that a general subsidence of the mainland is necessary to account for the changes of level which have undoubtedly taken place along this part of the coast; and it has been supposed that a great part of the western coast of Britain has subsided several feet within historical times, but we believe the data for such a conclusion to be entirely limited to alluvial deposits, such as those now under consideration. That many variations of the surface have occurred in these islands no geologist can doubt; but in the present case we think the subsidence may be of a merely local character, resulting from the sinking and contraction of the loose sands underneath the peat beds.

It may be safely concluded that the sand has originally accumulated from the combined effects of the winds and currents heaping it up until dry, its surface becoming clothed with vegetation; a deep soil gradually accumulated afterwards, covered with forest trees. The position of this vegetable soil is now so low and so little above the level of the sea, that there can be no doubt but that the subsidence it has undergone obstructed the drainage and destroyed the forest.

After a careful consideration of the subject we cannot find any evidence that the subsidence has extended beyond the boundary of the alluvial deposits—the degree of it increasing as we approach the sea. The peat beds dip towards it, and in some places are under the rise of spring tides, so that a sinking or contraction of the underlying sands

seems to be the only cause to which the phenomenon can be attributed.

The few feet of sand usually covering the peat beds near the shore is merely blown sand, such as are the sand hills, the tendency of the winds and currents being still to heap and deposit sand along this part of the coast.

The above general remarks upon the circumstances which modify all climates, and upon the local peculiarities of Southport, must be borne in mind in proceeding to consider the claims which that place possesses as a resort for invalids. Sharing as it does with the most favoured summer resorts those advantages derived from immediate proximity to the sea, it has certain well-marked and more immediately local advantages which few other places possess in an equal degree.

Foremost amongst these we place its open sea aspect, yet well sheltered position on the coast. Situated near the bottom of a deep sandy bay, it has all the advantages enjoyed by other neighbouring watering places, without the exposure to bleak and piercing winds attaching to some towns on the north west coast. It is bounded on the north and north east by a chain, or rather a crescent of hills, which shelter it in great part from the east and north east winds, the prevalence of these being limited to the months of April and May. Secondly, we notice its having two or three well-marked and distinct climates; the tide receding a considerable distance leaves a large expanse of sand to be heated by the sun—which has the effect of warming the sea-breeze passing over it—giving to Southport that of which few, if any other, watering places can boast, viz., a bracing sea atmosphere, and yet one *thoroughly dry*. Whether the air immediately in contact with

the sand, while parting with its moisture, does not take up some of the peculiar constituents only found in sea water ; or whether a stratum of dry air passing over an extended sandy surface, at a high velocity, has not its force of electrical tension highly increased and condensed—are questions worthy of consideration, both of which have been adduced as explanatory of the peculiar sanitary effects of Southport in some diseases. The relative electrical state of the earth and the atmosphere, affords the great fluctuating health-scale to which man in his present physical state is subject. Whether it be fine or whether it be wet, is in all probability dependent upon the greater or less readiness with which the atmosphere surrounding us parts with the electricity it may possess, in alternation with the earth's supply of the same important element. Any agency which induces the atmosphere to part with its due quota, is a provocative of disease.

In addition to oxygen and hydrogen in the atmosphere, there is another element lately discovered, to which the name of *ozone* has been given. When electrical or galvanic machines are in action, the peculiar smell of ozone is readily distinguished. From this circumstance, it is thought that its production is closely connected with the electrical condition of the atmosphere. It is supposed to be a product of the partial decomposition of water, or a binoxyde of hydrogen. At any rate it is always found most plentifully over the surface of the sea, and may be considered as the secret potent element that gives life and health by its presence, and whose absence is always a concomitant and precursor of disease. It must exert a powerful influence in the atmosphere, as all noxious effluvia and miasms are destroyed by its presence, its deficiency or

absence serving to account for the prevalence of cholera, fevers, epidemics, &c. It may be regarded as the great purifier of the air, and, owing to its continual exhaustion by oxydating processes, it is difficult to discover its presence in towns or cities, or where there is much vegetation. It is found most plentifully, as before stated, *on* and *near* the sea.

This substance possesses more powerful oxydizing qualities than any other compound ever discovered. It is constantly produced in the atmosphere under all circumstances which determine either electrical or chemical change.

The necessity for some such agent will be rendered evident, when it is remembered that the atmosphere is constantly receiving exhalations from the earth and its inhabitants. Without a provision for the removal of these, they would speedily render it more injurious to all forms of life than carbonic acid gas itself, though to that alone we have been in the habit too commonly of attributing atmospheric deterioration.

The principal property of ozone is to combine with and change in the most rapid manner all animal matter—except albumen in its fresh state—thus constituting it the natural provision intended to correct those deleterious exhalations which the air receives, into innocuous matter. The atmosphere, artificially charged with ozone, immediately deprives the most putrid solid or fluid bodies of their disagreeable smell, and even sulphuretted hydrogen is instantly decomposed by it. When any epidemic such as cholera is raging, the atmosphere always shows a diminished quantity of ozone, and such diseases are directly attributed to that fact. The primary effect is seen in the great mass of vegetation covering the

earth's surface, giving off under an atmosphere of low electrical tension new and abnormal exhalations, which, with the organic poison from the masses of human beings congregated in large towns, find their way into that atmosphere, when deficient in the important element intended to keep such deleterious exhalations in check. Respecting the ravages of cholera, it is a remarkable fact that Birmingham and Berlin have almost entirely escaped, owing, probably, to the metallic manufactures in the neighbourhood which are supposed to elicit ozone.

Returning again to the climate of Southport, we may remark, that having two water lines, at great distance apart, each has its own distinctive quality; that at high water mark having all the characters of the stronger and more stimulating one at low water, but in a more modified and milder degree. Beyond this inner line, and more in the line of the streets of the town, the sea breeze is found still more softened; the atmosphere is buoyant, and remarkably free from impurity and humidity. Our being able to avail ourselves of the varied qualities of these distinct climates, according to the changing circumstances of the invalid, is of great practical importance in the treatment of disease. Nor should the patient himself neglect to study and observe these differences, which, though apparently trifling, are capable of helping or retarding the progress of his cure. An injudicious walk on the Promenade, in cold weather, has often undone the work of weeks; whilst, on the other hand, from the want of suitable guidance, the period of convalescence has been needlessly prolonged, from an undue fear of exposure to a bracing atmosphere.

The character of the soil, and of the surrounding country, adds greatly to the sanitary value of Southport. Being skirted on three sides by ranges of sandhills, it is not only sheltered from east and north winds, but the soil, consisting chiefly of sand, retains no moisture or rain on its surface, a heavy fall of rain leaving no trace after a very short time. The fall, indeed, is slight in comparison with that of the surrounding country, a circumstance partly accounted for from the vicinity of the hills—these latter attracting the rain clouds ere they reach the coast. The absence in its immediate vicinity of any considerable body of fresh water, is another climatic advantage, very few places having the same extent of country free from running or stagnant water. The facility thus afforded for taking exercise, is of the utmost importance to invalids. In localities situated upon the clay, a heavy shower, for even a short time, involves the withdrawal of out-door exercise for a day or two, in consequence of wet roads and atmospheric evaporation. Under such circumstances, which of course are of frequent occurrence, the invalid is either compelled to encounter the risks attendant upon wet feet and breathing a damp air, or he is precluded from the muscular exercise upon which depends the healthy condition of all the animal functions.

The atmosphere of Southport is remarkably free from malarious influences; epidemics rarely occur, and when they do, they are seldom malignant unless when imported from large towns. It exerts upon visitors a sedative and composing influence. In some temperaments, for the first few days, it induces diarrhoea, in others the opposite condition.

It is proper to remark here, that notwithstanding the truth of the above statement as to the dryness of the air, it is not so

excessive as to be irritating to the skin or mucous surfaces. Such a condition would be nearly as injurious as the opposite extreme of excessive humidity. Even during the prevalence of the east and north-east winds, those most unpopular of the subjects of Boreas, the irritative effect is not greater than is found in other localities, much less indeed than on the east coast of England, whilst the prevailing westerly winds come softened by the vast expanse of the ocean. It is not easy to account for this stopping short of the extreme of dryness, but in the opinion of my friend Dr. Formby, whose knowledge of this part of the coast is beyond that of any other physician, it is in some way connected with Martin Mere, Halsall Mere, and the other meres which chiefly lie to the east of Southport, and appear to temper and soften the atmosphere in their neighbourhood.

The absence of fogs in a place situated on the sea coast is somewhat remarkable. And yet such is the case to a singular extent. So general is the opinion of the original inhabitants on this point, that in order to account for the appearance of a fog occasionally during the last few years, they resort to the amusing explanation that they are in some way connected with the arrival among them of so many families from Manchester and Liverpool—an explanation which, however quaintly put, has this modicum of truth in it, that the increased number of houses has diminished the radiating surface of sand, upon which the general absence of fog no doubt in some measure depends. The only explanation I can suggest is that the sea fog is divided before it reaches this deeply indented coast, and is drawn up the channels of the Mersey and the Ribble, leaving the bay in which Southport is

situated clear. The traveller to Liverpool will frequently enter a fog at Formby or Crosby, which accompanies him to town, leaving his home in Southport perfectly clear from anything of the kind. The character of the soil will account for the rarity of land fogs.

In the absence of extensive meteorological data, there is one mode of determining the curative influence of climate of not less importance, and which has been too much overlooked, to which we must briefly allude; that is, the effect of any given climate upon the health of the native population. It is evident that much may be learnt upon this point by ascertaining the nature and amount of disease which prevails in a locality, and the proportionate number of its cases of longevity, as compared with other places. By observing the peculiar nature of the climate, and its influence upon the stationary inhabitants, we are led to discriminate also in the choice of cases of disease likely to be benefited by being sent to such locality. If, in any climate, we find that its agency is decidedly of a relaxing kind, and that it proximately acts by modifying the tone of organs, we would, *a priori*, infer that such a climate would be unsuitable to that kind of diseased action, depending upon general want of tone and a low state of functional energy. But again, if in any climate we find that acute inflammatory affections—for instance, of the mucous membranes of the air passages—are a common disease with the natives, it would not seem to be a wise or logical proceeding on the part of a physician, to send to such a climate a stranger who was likely to be affected by these very maladies. Now if these principles are applied to the case of Southport, we believe that everything advanced in favour of its climate will meet with the fullest confirmation. That the climate is at once bracing and sedative,

may be gathered from the physical and moral history of its native population. If we take as a type of these, the fishermen, we find them broad and fleshy in their frames, phlegmatic in temperament, slow in their movements, and (though this must be attributed to something better even than a good climate) remarkably decorous and staid in their conduct. With reference to the number of cases of longevity amongst the natives, it is unnecessary to dwell upon the fact, since it is generally admitted, and, indeed, is capable of easy proof.

The rapid rise of Southport from its original insignificant position to its present elevated rank among English watering places, speaks more for it than any panegyric, however laboured or elegantly expressed. That a place which but a few years ago was little else than a knot of fishermen's huts, should in so short a period of time exhibit such an amazing change, is indeed wonderful, and can only be explained by the advantages of its situation, the convenience and safety of its bay for bathing, sailing, &c., and by the healthful bracing atmosphere that surrounds it.

In respect to its shore, the sea water is quite pure, the sands under foot are soft, yet firm, and entirely free from obstruction; the declivity is so gradual as to be almost imperceptible, a great desideratum to the weak and fearful, and especially in the case of children. The bay is so well sheltered by nature, that it is very rarely such weather occurs as to prevent bathing; in many places there are long interruptions to bathing from the turbulence of the sea, to the great disappointment, loss of time, and expense of those to whom such delays may be both annoying and injurious.

The above natural advantages have been much increased by art. The village, now rapidly acquiring the dimensions of a

fair sized town, is planned with much taste, many of the buildings being of a superior class and possessing architectural beauty. The streets are long, wide, and well constructed; they are arranged at right angles, thus facilitating ventilation, light, and cleanliness. The majority of them, by directly communicating with the shore, afford a free passage to the wholesome sea-breeze. It is now under contemplation to extend the sewerage and adapt it to the increasing requirements of the place.

In concluding this chapter I will quote the picture of an imaginary climate for the consumptive, as drawn by the eminent physiologist, Dr. W. B. Richardson, leaving such readers as are acquainted with Southport to judge how far it meets the case. Certainly it fails in regard to enticing scenery, but that can hardly be considered an essential:—

“I shall recommend no particular place as a resort for consumptives, for I wish not to enter into disputation on this point. But here is the formula for an hypothetical consumptive Atlantis. It should be near the sea-coast, and sheltered from northerly winds; the soil should be dry; the drinking water pure; the mean temperature about 60°, with a range of not more than ten or fifteen degrees on either side. It is not easy to fix any degree of humidity; but extremes of dryness or of moisture are alike injurious. It is of importance in selecting a locality that the scenery should be enticing, so that the patient may be the more encouraged to spend his time out of doors, in walking or riding exercise; and a town where the residences are isolated and scattered about, and where drainage and cleanliness are attended to, is much preferable to one where the houses are closely packed, however small its population may be.”

CHAPTER III.

See the wretch that long has tost,
On the thorny bed of pain,
Again repair his vigour lost,
And walk and run again.
The meanest flow'ret of the vale,
The simplest note that swells the gale,
The common air, the earth, the skies,
To him are opening Paradise!

GRAY.

EFFECT OF THE CLIMATE UPON DISEASE.

GENERAL CLAIMS AS A SANATORIUM.

WHEN we consider the physical results of a change of residence from a humid atmosphere to a mild dry one;—that such a change promotes the equable distribution of the circulating fluids over the whole system, increases the activity of the capillaries of the surface, and in the same proportion diminishes the congestion of internal organs; that the continued action of a bland atmosphere upon the delicate surfaces of the respiratory tubes, lessens irritation and assists in the more efficient production of those changes of the blood so essential to health;—we shall see sufficient reasons to account for its importance as a means of recovery in various forms of illness.

Nor can we omit to recognise the incidental advantages which attach to such a step. The hope engendered by a new movement taken towards recovery; the cessation of business cares and anxieties, novel scenery, new associations, and the other incidents attendant upon a change of residence,—all these circumstances have a powerful effect upon the weakened frame. And when the locality chosen is appropriate to the particular ailment under which the patient actually labours, or with which he is threatened, and especially when the measure has been taken in an early stage of the complaint, the result is often of the most valuable kind, and justifies all that has been said by those who place change of air among the foremost of our remedial agents.

The diseases in which change of climate is most expedient, are chronic bronchitis, asthma, emphysema, strumous diseases, consumption, chronic rheumatism, chronic dyspepsia, ulceration of the fauces, clergyman's sore throat, &c., and to these complaints the climate of Southport is especially adapted. The advantages of a prolonged residence on this part of the coast, in connection with the more immediate treatment of disease, are such as arise from its marine position, and from the constant operation of its peculiar local climate.

The most direct and certain remedy in many chronic complaints, is the habitual breathing of an air containing a maximum amount of oxygen. The proportion of the constituents of atmospheric air remain the same on the highest mountain as in the deepest vale, the principal difference being the amount of carbonic acid mixed with it in different localities.

Owing to the pressure of the superincumbent atmosphere, air increases in density the nearer we approach the level of the

sea, and it is evident that we inhale at every breath a greater amount of air, and, consequently, a greater amount of oxygen, than at a few hundred feet higher. One great secret of the cure of chronic cases at the sea side, therefore, is the being able, without extra exertion or effort, to receive into the lungs an additional amount of oxygen. The effect of this is to rouse and sustain the nervous system, and to expedite and perfect the aëration of the blood in the lungs, by means of the more rapid combustion of carbon, thus creating a greater demand for nourishment, as shown by the vigorous appetite which so generally follows a removal to the sea side. The same principle is called into operation by the hydropathist, who must have hills to climb or he gets little or no result. The exertion requisite for ascending a hill necessitates an accelerated circulation, which gives the increased amount of oxygen to the blood. It is obvious, however, that many cases of disease do not admit of such exertion, and there is an absolute necessity for exercise upon the level ground.

As might be expected from what has been already stated, the climate of Southport is peculiarly adapted to the prevention or relief of consumption. In the earlier stages, particularly, before tubercles have actually formed, its effects are often most surprising. As this is essentially a blood disease, and as the sea air is one of the most efficient agents in the improvement of the vital fluid, the prolonged residence of young persons threatened with this fearful malady, has in numerous instances perfectly re-established their health; or in the case of those who possess an hereditary tendency to the disease, has postponed the accession of fatal illness. When the lung has been more or less affected by tubercular deposit, the favourable

conditions found in this climate have often, with very little medical interference, arrested the progress of the mischief, and, by giving every advantage to the great restorer, Nature, there have resulted the loss of cough, the diminution of expectoration, the gaining of flesh, and the return of bodily and mental strength.

The same results are found to take place in many cases of chronic bronchitis, attended with excessive secretion and exalted sensibility of the pulmonary mucous membrane. The relief in these cases, from a change from a cold and moist to a mild and dry climate, especially when aided by a judicious use of some of the preparations of iron, is, perhaps, more marked, because often more rapid than in any other morbid condition. It may be stated, in general terms, that the same external circumstances that prove advantageous in consumption, are of equal value in this complaint also.

I have witnessed the most beneficial results, also, in emphysema of the lungs; the tonic and sedative effects of the atmosphere, which exerts a favourable influence upon the air passages, reducing the secretion, improving the breathing, restoring sleep,—and, these ends attained, the general health gradually and surely improves.

In internal congestions, particularly pulmonary, in heart diseases, asthma, and indeed whenever there is imperfect circulation of the blood, or difficulty of breathing, the extreme *purity* of the air is found to add greatly to the comfort of the invalid, and where the disease is of short standing, and circumstances are favourable, this locality is highly conducive to a cure. In the aged, in whom there is reason to believe that structural change has already taken place, disease has

apparently stood still for years, and a degree of comfort has been experienced to which the patient has long been a stranger, while living on a clay soil, or in the neighbourhood of copious vegetation.

In chronic rheumatism, and general or partial paralysis, the recovery is frequently very remarkable. That it should be so in the former case will be understood when we remember the dryness of the atmosphere, and the injurious effects of damp upon the sufferers from rheumatism. The relief of paralysis is probably due, not only to the improvement of the general health, but to the relief of pressure upon the nervous centres, arising from a light and pure atmosphere. The importance of so pure an atmosphere, possessing such physical peculiarities, in diseases of a more general nature, is sufficiently obvious. The unwholesome conditions to which the dwellers in pent-up cities and unhealthy districts are habitually exposed, lead to the production of a low tone of the general health, and proclivity to disease, which disable them from resisting any prevailing cause of epidemics. The comparative freedom from epidemics hitherto enjoyed by the inhabitants of Southport, affords the best illustration of the converse of this truth.

The climate of this place, in conjunction with sea-bathing, has a peculiarly beneficial effect, in certain forms of cutaneous affections, which are extremely distressing to the patient, and are often among the least satisfactory cases with which the physician has to deal. Among these may be mentioned acne, psoriasis, lepra, and troublesome chronic eczema. The capillary vessels partake of the improved tone communicated to the system at large, while the sub-acute inflammation of the skin

is at once soothed and subdued by the application of the sea water.

Of the large class of cases of disease which are comprised under the general term of scrofula, a lengthened residence by the sea side is acknowledged to be by far the most important means of cure. The number of young children with feeble, rickety frames, ulcerating glandular enlargements, and drooping pallid countenances is lamentably large. The local complaints under which they suffer, are only the symptoms of constitutional degeneration, which requires the long-continued employment of constitutional measures for its removal or improvement. A marine atmosphere, sea-bathing, warm clothing, nourishing diet, and other hygienic measures are the essential remedies. The special advantages which Southport offers in these cases, over other sea side resorts, are the dryness of its atmosphere and its walks, the safety of its sea-bathing, and the unfailing occupation which children find in digging in the sand.

It might be supposed that the advantages of a sea side residence, as well as the other special local advantages offered by Southport, were of little importance in diseases of the stomach and bowels, and in affections of the digestive organs generally. Such a supposition, however, would be erroneous. Many forms of dyspepsia are greatly relieved by a change from a raw cold climate to a warmer locality, in conjunction with the utmost attention to diet, and regular exercise either on horseback or on foot. In those cases of dyspepsia, particularly, where the mucous membrane of the stomach is irritable, the improvement is very marked. The same may be said of similar states of the intestinal membrane, in chronic diarrhoea.

It would be impossible to particularise the affections of the liver and other organs which have been benefited by this climate, or which, at all events, have seemed to owe their cure to a long continuance of its influence. As one instance out of many, I present the reader with the following case, which is not only interesting in itself, but has additional value from being the personal experience of a medical man, whose judgment must necessarily be better than one unacquainted with the nature of disease.

“J. P. S., ætat 30; form, spare and delicate; temperament, nervo-bilious; habits, temperate; has undergone much mental and physical labour; riding or driving long distances, daily, in the exercise of professional duties; much night work. Early in the year 1851, began to experience violent intermittent pain in the epigastrium; sometimes simulating heart-burn, more frequently of a dull boring character, generally limited to one spot, and attended with sense of weight and oppression,—relieved temporarily by warm food or drinks. Pyrosis sometimes preceded the pain, but frequently seemed to result from it; affording, however, no mitigation to the symptoms. Appetite not much affected in the absence of the pain, which did not come on at any stated period before or after meals. Bowels variable, alternately loose and constipated; much flatulence, frequent eructations of sulphuretted hydrogen. Tongue clean; indented at the side; cracked transversely, papillæ prominent. Pulse generally regular but feeble, not affected in frequency during the paroxysms; nights disturbed and restless. At this period of my ailment, which was conceived to be *Gastrodynia*, from mal-assimilation, I resorted to alkalies, combined with bitters, afterwards bismuth and

hydrocyanic acid. The attack generally came on and disappeared without apparent cause; during the remission of the pain I speedily regained flesh and strength. It generally recurred every five or six weeks, and lasted several days. In 1853, after a succession of attacks of variable severity and duration, I became much worse. The intermissions were shorter; the pain much aggravated in intensity—sometimes occupying a space intermediate between the umbilical and epigastric regions, and conveying the sensation of an intensely acrid fluid, acting upon a raw, abraded surface, which a florin might cover. At other times it was much diffused, extending to the right hypochondrium and dorsum of the back, assuming a character which baffles description. Much distension and flatulency accompanied it, and sounds similar to the rolling or dropping of fluid were often heard by myself and attendants, especially when I assumed the recumbent position. It was generally worse in the night, my sufferings frequently obliging me to pace my room or rise up suddenly in bed in restless agony, my hands pressed upon or rubbing my stomach; the peristaltic movements of the latter being often visible, especially during violent paroxysms. Appetite variable and capricious; nausea seldom absent; food when taken often aggravating the pain; Pyrosis now more frequent, and succeeded by vomiting of yeast-like fluid in very large quantities, very acid and effervescent, sometimes boiling over the receptacle. Urine alkaline, larger in quantity during the paroxysms, generally pale and of low specific gravity. Great mental and physical prostration; countenance pinched and anxious. During the latter period, I availed myself of the opinions and advice of several medical friends, and, at their suggestion employed, at different stages

of my disease, (now pronounced to be ulceration of the stomach, in conjunction with *sarcinæ ventriculi*,) the following remedies : local depletion, counter-irritation, nitre, muriatic acid, quinine, oxyde of silver, creosote, and more recently cod liver oil, and hyposulphite of soda. The former I could not persevere in, as it kept up a constant nausea. At times, I imagined the latter reduced the quantity of fluid vomited, and arrested the fermentation ; it had, however, no effect upon the pain ; indeed, I often found it necessary to encourage vomiting to relieve the latter, and the more perfectly I succeeded, the more permanent was my relief. At this stage, alkalies induced pyrosis and aggravated the pain.

In October, 1854, during an interval of moderate health, I was called out several nights successively. To this circumstance, and exposure to cold, was attributed an attack of peritonitis which followed and confined me to my room for five weeks. Under the ordinary treatment, with the early use of stimulants, I recovered slowly and unexpectedly. From this time my stomach symptoms progressed in severity, and I became utterly wretched from their continuance. Pain and vomiting were now almost constant, excessive prostration and debility ensued, and the attacks at length confined me to bed five days out of seven. My own impression and that of my medical friends was, that I was the subject of some obscure organic disease implicating the liver. Despairing of relief from other measures, I now resorted largely to opiates, alone or combined with magnesia and compound kino powder, with temporary alleviation to my sufferings. Throughout my illness, I was scrupulously careful in my diet. In August, 1856, in consequence of increased pain and debility, I was

obliged to relinquish my practice, and came down to Southport, while the removal of my family was accomplished: I now felt excessive languor and sense of serious illness impending. Opiates, latterly, merely subdued the pain sufficiently to make it endurable, and although there was no apparent swelling externally, I experienced a feeling of extreme fulness and distension, continuous nausea, and repeated vomiting. The vomited matter now assumed a dark tinge; this change I at first ascribed to some black currant jelly I had taken. On the day following, however, (August 8th,) whilst conversing with a medical friend, I was seized with vomiting, to the amount (as I was afterwards informed) of several quarts; the fluid being dark, and porter-like. Small quantities passed also by the bowels. I was now quite blanched, and for some time in a hopeless, insensible state, and was only restored by the presence of mind and anxious exertions of my friend, who administered brandy repeatedly, applying mustard cataplasms to the heart and extremities. On the second day, turpentine and ammonia were prescribed, followed by quinine and nitro-muriatic acid, with alteratives and anodyne. I returned home in November, feeling better than I had done for several years, and quite hopeful that the crisis of my sufferings had passed. In about a month, however, after my return, I began to experience the sad forewarnings of a relapse, and from that period to July, 1857, during which I had lived in perfect retirement, I underwent a series of attacks similar to those above related. Having formerly experienced much benefit from visiting Southport, I decided, as a 'dernier ressort' to reside there; removed late in July, scarcely able to travel from excessive debility. My sufferings still continued without

abatement up to December, when after a fortnight's intense pain, which opium, belladonna, and chloroform failed to relieve, diarrhoea came on, the evacuations being similar in character to the fluid vomited in August, 1856. Under watchful care and judicious treatment I again recovered. From this time my health steadily improved, and I now enjoy entire freedom from pain of any description. My own conviction is, that had I removed to Southport earlier, my sufferings would have been much curtailed."

The above case is one of a numerous class, in which the beneficial effects of a suitable climate are recognised, without the mode of its operation being very apparent. No particular necessity would seem to have existed from the nature of the case, either for a dry or a saline atmosphere. The country district from which the patient came was not an unhealthy one, and the purity of the air of Southport could not have been the sole cause of the beneficial result. In such instances we must be content to rest upon the fact without being able to explain its rationale.

The forms of dyspepsia which seem to derive most benefit from the climate of Southport, are those which present the following symptoms: Digestion is slow and painful, accompanied by a sense of uneasiness at the pit of the stomach, a feeling of weight, and frequently severe pain coming on after a meal. This commences from a quarter of an hour to three hours after taking food, and is often attended with heartburn. There is also much flatulence, the gas emitted having the odour of sulphuretted hydrogen, or, more commonly, communicating a sour taste to the mouth; constipation is habitual; the appetite lost or diminished; the tongue little altered in

appearance; great sensibility to pressure over the stomach, sometimes limited to a very small space. With these local symptoms, we find an enfeebled and languid condition of all the functions, a pale countenance, the body emaciated, the extremities cold, the skin harsh and dry; the intellectual faculties impaired, and the muscular force diminished, so that mental and bodily exertion are equally difficult. Such are the symptoms which are continually presenting themselves, and which seldom fail of relief, if, during his residence, the patient will pay a moderate attention to his diet, exercise, clothing, &c., and to those general sanitary rules which have been a thousand times repeated, and therefore need no further reiteration in these pages.

I would here give a few words of caution, with particular reference to those who suffer from affections of the throat and chest. Although, as has been said, there are few days in which an invalid cannot contrive to get walking exercise, it must be mentioned that the changes of temperature during the same day are frequently very considerable. It is needful, therefore, carefully to avoid going out either too early or too late in the day. During certain portions of the winter, there are not more than two or three hours intervening between the chills of morning and of evening, and this interval should be chosen for out of door exercise. It is also desirable, indeed, absolutely necessary, in more serious cases, that the patient should keep his rooms at an equable temperature, say of about 65° , and this should be done both by day and by night. The great and sudden change from a warm sitting-room to a cold bed-room, is continually frustrating the best contrived attempts to bring about a cure.

CHAPTER IV.

Hope, like the glimmering taper's light,
Adorns and cheers the way;
And still, as darker grows the night,
Emits a brighter ray.

GOLDSMITH.

SUGGESTIONS FOR INVALIDS.

IN the outset of some remarks I propose to offer to those who have left their homes in pursuit of health, it is necessary to dwell somewhat at large upon the importance of maintaining a hopeful state of mind. Though it is said,

“Hope springs eternal in the human breast,”

it is not easy to cherish and retain that feeling under circumstances of declining strength, of long continued or oft returning pain, and isolation from all the habits and excitements of accustomed duties. The nervous depression which chronic illness naturally induces, often leads an invalid to take a more gloomy view of his condition than the facts will justify. Of course there are cases where a reasonable hope of recovery can no longer be entertained; and in all cases of protracted illness, it is the duty of a Christian to prepare for the most solemn issue, that it may be also the most welcome and most blessed.

But there are special reasons, derived from the inherent powers of the system and amply confirmed by experience, which afford sufficient ground for a chastened hope, even in circumstances of undoubted gravity. The chief illustrations I shall adduce, are taken from one of the most formidable complaints which afflict humanity—Consumption. Pathological facts show that recovery from Consumption may take place in all its stages, whether the disease is in the form of small tubercles sprinkled through the lung, when it is aggregated in masses, and even when, by softening, a cavity of greater or less extent has been formed. There is conclusive evidence that tubercle does occasionally become absorbed. Moreover, the cavities may be healed by cicatrisation; by contraction with calcareous or chalky concretions; or by the formation of a thick fibro-cellular lining membrane, the cavity remaining, though harmless.

These evidences of the fact of recovery in Consumption, are found in cases where death has occurred from other diseases; but we have equally valid testimony during the life of some who have been its subjects. There are many who have presented all the rational signs or symptoms of Consumptive disease, and every year adds to the number. Some have recovered from the first stage, and, doubtless, many more such might be recorded, if the nature of the complaint were better appreciated by the public, and earlier attention paid to declining health, previous to the appearance of special chest symptoms. In the second stage, the recovery has been equally conclusive, and the physical signs have been reduced to mere roughness of the respiratory sounds with prolonged expiration. In another case, where there was spitting of blood and a cavity in the

lung, there was recovery of the general health and removal of the cavity. In another, in the third stage, the cavity remained open, but contracted, and the health was restored. In another case, where there were evidences of extensive disease and cavity, similar improvement took place in the system at large, and almost all signs, previously recognised by the stethoscope, were removed. Many cases where the disease has been arrested, are on record.

It must not be supposed that these successful attempts of nature to check the progress of this formidable complaint, are of very rare occurrence. Dr. Williams states that he found phthisical lesions in the lungs of half the adults beyond the age of forty that he had examined, showing that many escape the disease notwithstanding its seeds are in their frames. Professor J. H. Bennett found concretions and puckerings of the lungs in twenty-eight out of seventy-three bodies. Rogée states, that of one hundred aged persons who died at the Salpêtrière, fifty-one had concretions and other traces of tubercular disease of the lungs. In five of the cases he found cicatrices of cavities which had healed; and he states, that in the course of a single year, he had been able to collect ten or twelve incontrovertible examples of the same kind. Nor is this fortunate issue confined of necessity to cases in which the disease has been of very limited extent; for Dr. Bennett has recorded the case of a man who, at the age of twenty-two, laboured under all the symptoms of deep decline, but recovered, and died at the age of fifty of an affection of the brain. The upper portions of both lungs contained cretaceous tubercles, and were puckered, and the cicatrix at the summit of the right lung, was from a quarter to three-fourths of an inch in breadth,

and three inches in length. When we remember the tendency which all cicatrices have to contract, it will be evident that one of this kind must have resulted from a cavity of very considerable size.

If these things be so, and we are entitled to entertain a reasonable share of hope even in the case of so formidable a disease as Consumption, with how much greater propriety may this be done in most other complaints? In a former part of this little work, a case has been given of recovery from serious disease of the digestive organs, and it would be easy to enumerate instances in which other portions of the body were involved. Advanced life, in connection with disease, affords less ground for hope; but in early and middle life, we do well to have faith in the reparative powers of nature, assisted by the resources of art, especially when the system has not been undermined by a previous career of debilitating excesses. As an instance of the life-protracting influence of modern therapeutic agents, we may mention that Dr. J. B. Williams (than whom no man is better qualified to speak on the point, and who draws his inference from 9000 cases,) has recently asserted, that the average duration of Consumption, formerly estimated at two years, may under improved treatment by cod-liver oil, be fixed at four years.

Few things are of more importance in the management of chronic disease, than that a rational and well-considered plan of treatment should be pursued with perseverance, and for a sufficiently lengthened period. And yet the anxieties of the invalid frequently lead him to err on this point. Not reflecting that his present condition has been the result of a long continued divergence from the standard of health, in some one

or more of the functions or organs, before there resulted what forms his actual disease—he forgets, or does not understand, that the healing powers of nature, however encouraged and aided by art, when they have really begun to remedy the evil, can only return to the healthy condition at a similar pace. He lays himself open, consequently, to every promising offer of a royal road to recovery. Systems surround him on every side, promising the speedy fulfilment of his most ardent wishes, their claims endorsed by this and that enthusiastic friend. Comparisons are made between his case and others, based upon the slightest resemblances, and without even the attempt to ascertain how far those resemblances are real or only apparent.

The mingling of truth with falsehood which we find in medical heresies, is the real source of their success. A system of pure error could not exist for a day. But when a portion of truth is recognised in an otherwise false system, it conceals its real nature as a whole, owing to the difficulty of discriminating in matters so alien to an invalid's ordinary pursuits. But it must be admitted that the present state of medical heresies is to some extent a legacy from the former system of medical practice, and which we are afraid has still its adherents. We see at present a state of things which cannot, we sincerely believe, be altogether accounted for by the weakness and credulity of the public; we cannot but attribute something to the mystery and excessive medication of former times. The public were greatly to blame for the mystery, since they persisted in attributing a power to the medical man beyond all reason; they were to blame in leading to an undue use of medicine, since they supposed that in that alone

consisted his power to do them good; and if one declined to prescribe for them, they went to another. But still the profession were consenting parties. There was a want of confidence in the force of truth, when urged with simple earnestness. Had the profession been sufficiently alive to the danger of reaction in the public mind; had they calculated upon the growing intelligence of society; had they sacrificed their immediate interests to the permanent welfare of the profession, they would have prevented the present discreditable state of things. We are not now speaking of vulgar quackery: that must always exist while the masses are ignorant and unreflecting, and thus exposed to become the prey of designing men. We allude to those fashionable systems which are followed by so many otherwise thoughtful and intelligent men and women, who are not to be led astray by mere credulity, but require some one guiding principle, of which they must be convinced. This has been with many the conviction that the former practice of over-drugging with medicine was wrong. Satisfied of this fact, they have dwelt upon the discovered truth so long, as to have little thought to expend upon the foundations of the system they have adopted. They know themselves to be right on one point of the enquiry, and they too lightly assume the correctness of the rest. Tired of so much physic, they fix upon water, a remedial agent of good repute, and erect a temple of health in which she is the exclusive goddess. As hydropaths, they can, at least theoretically, get rid of the drugs they so much detest. Or, if unprepared absolutely and ostensibly to "throw physic to the dogs," they tamper with their reason so far as to substitute a semblance for a reality, and, having minutely subdivided the "dummy," swallow it with the

greatest possible gravity. Prove to them, if they will listen,—which they will seldom consent to do,—that their fundamental principle is a falsehood; remind them that, for the production of every positive effect, there is required an exactly adequate cause; show them that their great conclusive arguments, their reputed cures, are but prime examples of the logic of *post hoc, ergo propter hoc*, and that the same syllogism would equally establish all the competing systems of quackery that now exist, or have ever existed; do all this, and more, yet they fall back upon their first strong conviction, and behind that entrenchment stand, till events prove to them the fallacy into which a partial truth has led them.

There is one point, not bearing exclusively upon the condition of the actual invalid, but of more general interest, to which I must allude,—that is the subject of prophylactic medicine, or that department which has reference to the prevention of disease. That this department should have received so little attention, is indeed surprising. It is a popular saying, that “prevention is better than cure;” but both patients and physicians have been content to leave the matter in its proverbial form, so far as any systematic carrying out of the principle is concerned. Very scanty notices of this subject are to be found, and those very widely dispersed, in medical writings. It is so much the custom virtually to limit the duty of the physician to the cure of disease, that this noble sphere for the exercise of his skill and ingenuity is practically ignored. And yet it is probable that, in a large proportion of those who die of chronic disease, the seeds of such disease have been implanted by the time they have attained their fortieth year. Would it not be wiser to make the first rudimentary

appearance of anything in the shape of local or general derangement into a *casus belli*, the ground of a regular attack, rather than to wait till offensive hostilities appear in the form of painful symptoms? An unwonted sensation, or a marked change of function, amounting in neither case to positive inconvenience or distress, may, nevertheless, be significant of approaching ill, since we know that here also, “coming events cast their shadows before.” It is reasonable to suppose that suitable antidotal means might often be devised, based upon the physiological changes going on, to prevent those structural alterations which are sure to follow abnormal action long continued. This, however, can only be called prophylactic in an accommodated sense; but we would go further, and urge the necessity of a true prophylaxis. The transmission of hereditary tendencies to disease is of constant occurrence; individual peculiarities are often attended by a proclivity towards certain forms of physical derangement; a misguided early training may have warped the frame in an evil direction; certain employments or modes of life lead without fail to injurious, but well known, results. All these, and many others that might be mentioned, are instances in which a careful system of preventative measures, not taken up and applied intermittingly, but dovetailed, so to speak, into the economy of life, would seem to be the dictate of true wisdom. We are so much in the habit of thinking that men must die of disease, that a healthful old age is looked upon as something remarkable, something for the attainment of which no special effort can be made. No legitimate object of human desire can fail of at least partial accomplishment, where proper means are properly brought to bear upon it; and yet few would be found to

contend either that a healthy longevity is not such a legitimate object, or that it is not generally left to the merest hap-hazard.

No better instance can be given of what a due attention to prophylactic means can accomplish, than the case so well described by Dr. Watson, in his admirable Lectures on the Principles and Practice of Physic: "The late Dr. Gregory, of Edinburgh, used always to mention in his lectures the case of Dr. Adam Ferguson, the celebrated historian, as affording one of the strongest illustrations he ever met with, of the benefit that may be derived from timely attention to the avoidance of those circumstances which tend to produce plethora and apoplexy. It is, perhaps, the most striking case of the kind on record. Dr. Ferguson experienced several attacks of temporary blindness some time before he had a stroke of palsy, and he did not take these hints so readily as he should have done. He observed, that while he was delivering a lecture to his class, the papers before him would disappear—vanish from his sight, and appear again in a few seconds. He was a man of full habit, at one time corpulent and very ruddy; and though by no means intemperate, he lived fully. I say, he did not attend to these admonitions, and at length, in the sixtieth year of his age, he suffered a decided shock of paralysis. He recovered, however, and from that period, under the advice of his friend, Dr. Black, became a strict Pythagorean in his diet, eating nothing but vegetables, and drinking only water or milk. He got rid of every paralytic symptom, became even robust and muscular for a man of his time of life, and died in full possession of his mental faculties at the advanced age of ninety-three, upwards of thirty years after his first attack." Sir Walter Scott describes him as having been, "long after his eightieth

year, one of the most striking old men it was possible to look at. His firm step, and ruddy cheek, contrasted agreeably and unexpectedly with his silver locks; and the dress he wore, much resembling that of the Flemish peasant, gave an air of peculiarity to his whole figure. In his conversation, the mixture of original thinking with high moral feeling and extensive learning, his love of country, contempt of luxury, and especially the strong subjection of his passions and feelings to the dominion of his reason, made him, perhaps, the most striking example of the Stoic philosopher which could be seen in modern days."

But immoderate indulgence of the passions and appetites, and the more obvious infractions of the physical laws, with the neglect of wise precautionary measures, are not the only points upon which it is needful to take warning. The intellectual and emotional nature of man is subject to laws quite as stringent as those which regulate his bodily functions. The injurious influence of mental excess is not less positive than that of physical, though not so obvious. It may be difficult to persuade the busy man on 'Change that the growing dyspeptic symptoms which trouble him are the direct result of the state of turmoil to which his brain has been exposed for months and years together; and yet the fact is certain. The student of law or divinity who strains his faculties to the utmost, without allowing them the repose necessary for their recruitment, is not only sinning against his own body, but is adopting the best plan to thwart his own cherished objects. The popular minister, whose whole soul is in his work, and who is compelled to keep his intellectual powers on full stretch to meet the requirements of his position, while his life is passed in a

succession of nervous excitements, exposed to alternations of heated rooms and cold night air, is undoubtedly doing a great work, but he does it at a great cost. He will hardly live to build up the Church by his matured wisdom, or exhibit the passive virtues of the aged Christian. The list of highly gifted ministers of various Churches who have been lost to mankind when in the full vigour of their intellectual and moral strength, by a systematic neglect of the most ordinary sanitary rules, is sad to contemplate. The subject is one of great delicacy, and I would only further suggest that the moral government of God is perfectly harmonious in all its parts, and that the fulfilment of a duty in one direction never necessitates opposition to the Divine intention in another.

Intellectual labour, pursued in the quiet of the study, if too long continued, and not sufficiently alternated with outdoor exercise, is fertile of ill effects. The maladies thus induced are extremely varied, and not seldom are attributed to any cause but the right one. They may take the form of a direct injury to the over-worked organ, the brain, and may proceed onward along the parallel lines which lead respectively to insanity or paralysis. But more generally they will assume one of the Protean forms of dyspepsia, and lead to impaired nutrition or structural change. Sydenham considered that one of the most severe fits of gout he ever experienced, arose from great mental labour in composing his treatise on that disease; and the student of literary history will call to mind many instances, where the completion of some intellectual masterpiece has been speedily followed by the death of the master. The late gifted Hugh Miller is one of the many instances of this fact. It is to be lamented, that those who

"intermeddle with all knowledge," and who are the appointed instructors of mankind, should so often neglect that knowledge with which their own mental and physical comfort is closely connected, and the acquisition of which would multiply their capabilities of usefulness to the race.

If prophylactic measures have an important bearing upon the subject of the prolongation of life, not less important is the proper treatment of advancing age. Although an individual may escape destruction from causes that are accidental and extraneous, he nevertheless bears about him natural and internal causes of decay, inevitable in their progress, and leading to one certain result. With the germs of life are intermixed the seeds of death; and, however vigorous the growth of his bodily frame, however energetic the endowments of its maturity, we know that its days are numbered. To mark the gradual succession of the phenomena which attend these changes is deeply interesting. In youth, all the powers of the system are in excess of its demands, and the body increases in bulk. In course of time, the processes of reparation and decay approach nearer to an equality, and at length are exactly balanced. By a wonderful system of adjustments the balance is kept perfect, often for many years, until, at last, old age steals on by slow and imperceptible degrees. The relative proportions of the fluids and solids are altered, the solid tissues become condensed, muscular substance appears almost changed into tendon, fibrous structures either lose their flexibility and become too rigid for use, or are changed into bone. The smaller arteries are obliterated, and the heart undergoes structural change; functions are feebly performed, the chemical condition of both solids and fluids becomes altered, the skin

grows dark and corrugated; and, as the various signs of decay increase,—the tottering step, the bent form, and the palsied movement,—we perceive that the individual has entered upon that period, when, in the sublime language of Scripture, “the keepers of the house shall tremble, and the strong men shall bow themselves, and the grinders cease because they are few, and those that look out of the windows be darkened, and the doors shall be shut in the streets, when the sound of the grinding is low, and he shall rise up at the voice of the bird, and all the daughters of music shall be brought low; also when they shall be afraid of that which is high, and fears shall be in the way, and the almond tree shall flourish, and the grasshopper shall be a burden, and desire shall fail; because man goeth to his long home, and the mourners go about the streets: or ever the silver cord be loosed, or the golden bowl be broken, or the pitcher be broken at the fountain, or the wheel broken at the cistern. Then shall the dust return to the earth as it was; and the spirit shall return unto God who gave it.”

When and how this descent towards the tomb shall take place, is in the hands of Him who measures out our days, and appoints our outgoings and incomings. Human science is impotent in presence of the general evidences of decay. But where the stress of disease is so localised as to threaten destruction before these marks of decay have become general, she can sometimes relieve that stress; she can suggest the compensations required by altered circumstances; she can endeavour to remove the obstinacy which persists in retaining habits no longer applicable or safe; she can erect barriers against anticipated evils; she can sooth the irritability of weakness, and assuage the violence of pain. At all events,

her ministers can never be more legitimately employed than in the struggle to prolong human life; and their efforts will be more or less effective, in proportion to the attention they may give, not only to actual disease, as it affects the different periods of life, but also to its first incipient manifestations. And it is to this dawning stage of illness, before the evil has attained any considerable power, that we would draw the attention of those whom it concerns. We would advise that practical effect be given to the maxim—"prevention is better than cure."

Leaves have their time to fall,
And flowers to wither at the North-wind's breath,
And stars to set—but all—
Thou hast *all* seasons for thine own, O Death !

We know when moons shall wane,
When summer-birds from far shall cross the sea,
When autumn's hue shall tinge the golden grain;
But who shall teach us when to look for thee ?

Is it when spring's first gale
Comes forth to whisper where the violets lie?
Is it when roses in our paths grow pale?
They have *one* season—*all* are ours to die !

Thou art where billows foam,
Thou art where music melts upon the air;
Thou art around us, in our peaceful home,
And the world calls us forth—and thou art there.

Leaves have their time to fall,
And flowers to wither at the North-wind's breath,
And stars to set—but all—
Thou hast *all* seasons for thine own, O Death !

HEMANS.

CHAPTER V.

This is the purest exercise of health,
The kind refresher of the summer heats;

* * * *

Even from the body's purity, the mind
Receives a secret sympathetic aid.

THOMSON.

ON SEA BATHING.

THE importance of bathing as a hygienic and therapeutic agent has been recognised by all nations, at all periods of history; its practice existed as well amongst nations basking under the heat of a tropical sun, as amongst the hardy inhabitants of the unthawed regions of the north. By the former it was employed as a religious observance or a mode of luxury, by the latter with a view to health, or to counteract the effects of intense cold.

The histories of Greece and Rome furnish abundant evidence of the extent to which bathing was practised by these nations. So fascinating to them was the luxury of the bath that it was customary to employ it at their festive entertainments, and it was considered essential to the *solidité* of public rejoicings. Establishments for this purpose were constructed, vying with each other in magnitude and splendour, as may be seen from the ruins which still excite the wonder and admiration of the traveller.

The importance of bathing cannot be overrated if we consider that the skin upon which it operates performs the several functions of absorption, secretion, and excretion, and that upon its surface the bloodvessels and nerves terminate. It has also a wide range of sympathies, in which are included the alimentary canal and air passages, and it co-operates also with those great emunctories of the circulating system, the lungs, the liver, and kidneys, aiding them in the elimination of noxious matters. Hence the absolute necessity that there should be no impediment to the performance of its functions.

Sea-bathing has many advantages over ordinary bathing. The sea may be considered practically as a medicated bath, containing, besides well-known saline constituents, iodine and bromine in minute proportions, which latter exert a peculiar action upon the glandular and absorbent system. The sea is also the habitation of innumerable organic beings, who live and die there; it therefore becomes impregnated with subtle and volatile animal particles, which extraordinarily increase the stimulating powers of sea water. We conclude, therefore, that open sea-bathing, where it can be borne by the invalid, is preferable, as in home or in-door bathing, although all the elements of sea water may be present, there is still the absence of a saline atmosphere, of the shock of the waves, the agitation of the water, and the electric and magnetic currents which are evolved, and exert a stimulating effect upon the system. It will be well to enlarge a little on these topics.

Sea-bathing on the British coasts (for its action is very different in the tropical waters of a warm climate) owes its efficiency to the combined influences of *cold*, of the *saline particles*, which enter into the composition of sea water, and of

the *shock* produced by the impulsion of the waves. In order to understand its effects we must endeavour to form a just estimate of the power of each one of these agents separately. The first impression produced by the cool temperature of the sea, which even in summer rarely exceeds 67° , is powerfully to stimulate the numerous sensitive nerves of the skin. As all our organs are under the influence and direction of the nerves, every part of the body must therefore be excited and stimulated by the sea-bath; as when a bell is struck, the vibration extends over every part of the metal. Sea-bathing goes far beyond the mere local action on the skin, its immediate effect being a general stimulation of the whole nervous system. The sudden application of cold to the surface is followed by a shrinking of the skin and contraction of the tissues. As the result of this, the capacity of the bloodvessels is diminished, and a portion of their contents suddenly thrown upon the internal organs. Hence follows the participation by the nervous system in this sudden congestion, causing a more energetic action of the heart, and consequent rush back to the surface. This is the state termed *reaction*—the first and final purpose of every form of cold bathing. Reaction is known by the redness of surface, the glow and thrill of comfort and warmth, which follow the bath. By it the internal organs are relieved, respiration is lightened, the heart is made to beat calmly and freely, the mind feels clear, the tone of the muscular system is increased, the appetite is sharpened, and the whole organism feels invigorated.

The stimulating effects of the *saline constituents* in sea water form the second agent acting remedially. These, which constitute about one fifty-fifth part of its weight, produce a powerful

stimulant effect upon the skin, and determine a more copious flow of blood to that organ, assisting the primary reaction, and shortening and diminishing its depressing effect. Owing to these qualities of sea water, one may bathe in the sea at a lower temperature than in fresh water. Reaction, even in robust constitutions, is much longer in making its appearance after bathing in rivers; but in the sea, even on a calm day, and to a weakened constitution, it is almost instantaneous, and much more powerful. It has been supposed by some that the absorption by the skin of a portion of the saline ingredients may tend to increase these effects.

To illustrate the influence of the third element in a sea bath, viz., the shock produced by the *impulsion of the waves*, we need only refer to the effects of a douche bath to form an adequate idea of the difference experienced between bathing in a calm and in an agitated sea. The shock of the waves in a rough sea is, in fact, an extensive douche bath, which, by striking a great part of the body at once, makes all the more powerful impression upon the economy.

The general result of sea bathing, both on the healthy and invalid subject is to stimulate nutrition and improve the functions of every organ, increasing the vitality of the blood and improving the various secretions of the body. The urine becomes more saturated, the action of the skin is augmented, the liver pours out a greater quantity of bile, and a more active respiration consumes a greater quantity of carbon. In consequence of this increased activity, the system gradually purifies itself of a mass of worn-out particles, which were tolerated so long as the body was in a languid state, but which, under the stimulus of increased energy, it casts off as

an oppressive load. Thus, we see the strengthening process giving rise to an alterative action in the diseased frame; swollen and indurated glands, scrofulous tumours, cutaneous eruptions, and other morbid deposits, are re-absorbed, and thrown out by the system.

There are certain conditions which require to be attended to, with regard to the differences of strength, constitution, and temperament, in individual cases. The first caution required is not to continue the immersion too long. Even in vigorous subjects, prolonged immersion is very apt to be followed by injurious effects, the danger being greater in proportion to the coldness of the bath. After the first shock on entering the water, a feeling of warmth and a genial glow is perceived; if the bather quits the water before this stage passes away, the whole surface of the body will partake of the sensation; if immersion be prolonged farther than this, the blood is driven to the internal organs, the nervous energy is depressed, and reaction being prevented, injurious consequences are liable to ensue.

One of the first of these is weakness of nervous energy, with irregularity of muscular contraction. No doubt most of the accidents that occur in bathing, and are generally referred to a supposed seizure of *cramp*, arise from this cause, viz., the enfeebling effect of undue cold upon vital action. This is perceived in the difficulty of fastening the dress when the hands are chilled. Hence persons of a spare and slender habit of body, even though they be good swimmers, should be cautious of venturing into deep water, especially at an early period of the season, when the water at the surface is no true indication of its temperature beneath. Even when the results

of too long an immersion are not so directly injurious, the system suffers from other evidences of defective reaction, such as a sense of chilliness, which continues throughout the day. Though cold never injures the body when acting as a stimulant, yet, in delicate and convalescent persons, the sensations of the bather must be specially regarded in relation to its mode, duration, and degree. The time occupied in bathing in cold water by invalids, though varying according to individual cases, should not, as a general rule, exceed a few minutes, say from two to ten. Before entering the water, a smart walk should be taken along the shore, so as to produce a comfortable glow, and assist the reaction. Persons in moderate health may remain in the water a longer time, in this respect being governed by their own experience; but they must not omit the use of active exercise, both during and after the bath.

When the bather is suffering from nervous exhaustion from bodily fatigue, when the skin is cold and covered with moisture, or where there has been violent perspiration from the effects of medicine or exercise, the effect is sometimes to overpower the system rather than to rouse it to reaction. Care must also be taken not to allow too long a time to elapse in the preparation for the bath, and particularly not to hesitate too long before plunging into the water. It is in this cold stage that there may be danger, for the excitement has already passed away, and the system cannot resist the depressing influence of the cold. If the surface of the skin be dry, and the heat somewhat above the natural standard, little is to be feared from immersion into a lower temperature.

The next important question is the proper time for bathing. In delicate subjects, injury is frequently caused by cold bathing

at a time when the vital powers are too languid to admit of the necessary reaction,—before a meal, or after any great fatigue, for example. The rule for the invalid should be, not to bathe either just before or just after taking food, nor after too long a walk. A bath early in the morning, before breakfast, exerts a more powerful effect than one taken at a later hour of the day, and requires proportionate energy and strength in the bather. As a general rule, both bathing and exercise, on an empty stomach, will be found unsuited to the invalid, and the best time will be the period between breakfast and dinner, taking care to avoid the other evil of bathing on a full stomach, which is dangerous to persons of full habits, or advanced in years, exposing them to the risk of congestion of the brain or even apoplexy. Two hours after breakfast and three hours after dinner should elapse before bathing is ventured upon.

Too frequent bathing is to be avoided. Bathing, like all other stimulants, depends principally upon its occasional use for its legitimate effects. The evils resulting from too frequent bathing are nearly equal to those resulting from too long immersion. The practice of bathing every day is not to be recommended. For persons of a delicate constitution and reduced habits of body, a bath every third or fourth day is sufficient; after a short period it may be tried every other day.

If the system be very weak and reduced, it is advisable to take a few preparatory warm sea-water baths, having the temperature daily reduced, so as to pave the way for bathing in the open sea; or a system of preliminary partial sponging with cold sea-water may be adopted, increasing the surface wetted daily, and commencing with the chest and back. As the good results of sea-bathing depend very materially upon

securing the proper amount of reaction, where this is not attainable in the ordinary way, means should be used to bring it about; for this purpose the flesh-brush, or horse-hair gloves, or what is perhaps better still, Walton's metallic flesh-brush, may be used, both before and after the bath,—applying friction more particularly over the stomach, chest, and back. No doubt the best mode of using the bath is that of quick immersion. As cold bathing has a constant tendency to propel the blood towards the head, it ought to be a rule to wet that part as soon as possible; by due attention to this circumstance, there is reason to believe that violent headaches might often be prevented.

There are many reasons why aged people should bathe with great caution. The tendency to disease of the brain increases as age advances, and it is very important that sudden and violent excitement be avoided; the strictest moderation should be maintained in every kind of mental and physical effort. In youth and manhood the waste resulting from the exercise of mind and body is soon repaired; but after the maturer years of life are passed, a point is reached when what is lost is lost for ever—any attempts to force either mind or body only leads to exhaustion. The warm bath is much more likely to be productive of good results in persons so situated, especially when the system is reduced from disease or over-exertion.

As a general rule, it may be said that wherever organic disease or change of structure exists, sea-bathing is injurious; debility, either nervous, or muscular, being the type of those diseases in which it proves beneficial. As a practice, the most delicate as well as the most robust may be so trained as to

enjoy and receive benefit from it ; but there are some constitutions, more than others, which are liable to feel its ill effects. Such are those who are plethoric and of a bilious temperament, whose natural habit of body is to make blood rapidly. Where the venous and arterial systems are in a constant state of tension, sea-bathing would be found too stimulating a remedy, tending to produce a momentary congestion of blood in some parts of the body, thus producing unequal distribution, and a strain or pressure on certain organs. Of course, the above remark applies more particularly to constitutions weakened by disease. Sea-bathing is no doubt enjoyed as much by persons of a full habit and bilious temperament as by others, and as safely, when properly trained to it.

Although the sea-bath is allowed to be useful in local congestion arising from debility and loss of vitality in an organ, yet even in these cases care and attention are required to prevent the weakened organs from becoming permanently injured by the quickened but unequal distribution of blood to the part. Individuals with a feeble action of the heart, or subject to spitting of blood, or in whom a state of active inflammation is present, should be particularly careful to use the bath with moderation, and to take advice before venturing on it.

As preparatory to bathing in the open sea, the warm sea-water bath is universally applicable. By its means invalids may gradually prepare themselves for the more stimulating and invigorating influences of the cold bath, who might not otherwise have been able to withstand the shock. Thus employed, it is better to diminish the temperature of the bath five or six degrees each time, trying the effect of applying cold to the back while immersed in the bath. Persons whose

nerves are very irritable and cannot easily bear the shock of the first dip in cold water, and cannot bear the loss of animal heat, should not try the experiment more than once, nor need they relinquish the good to be obtained by bathing. In the graduated scale of the temperate, tepid, and warm bath, a very little attention will enable them to hit the right medium, and they will thus possess a tolerable substitute for the open sea.

In addition to this preparatory use of tepid and tepid seawater bathing, it acts also as a sedative, promoting diaphoresis and determining from internal organs. It is advantageous in nervous affections, rheumatism, gout, in certain cutaneous diseases, and in hepatic dyspepsia.

CHAPTER VI.

How wond'rous is this scene! where all is formed
With number, weight, and measure! all designed
For some great end! where not alone the plant
Of stately growth, the herb of glorious hue,
Or foodful substance; not the labouring steed,
The herd and flocks that feed us, not the mine
That yields us stores for elegance and use;
The sea that loads our tables, and conveys
The wanderer man from clime to clime;
The rolling spheres that from on high shed down
Their kindly influence: not these alone
Which strike e'en eyes incurious; but each moss
Each shell, each crawling insect holds a rank
Important in the plan of Him who framed
This scale of beings; holds a rank which lost
Would break the chain, and leave behind a gap
Which nature's self would rue.

STILLINGFLEET.

NATURAL HISTORY OF SOUTHPORT AND ITS ENVIRONS.

THE Natural History of Southport, surrounding as it is with sheer sand, extending inland for some miles, would appear to offer little variety in its objects, yet it possesses a *Fauna* by no means contemptible. Of Quadrupeds we have but few; of Birds an extensive variety; of Reptiles none of the family of snakes, but an abundance of other kinds; of Fishes the variety is not great; of Insects we have a considerable number, and

some of great beauty and rarity. The list of Mollusks is a slender one, and the Shells found on these shores are neither beautiful nor of great diversity, but of Cockles the number is immense, so much so, that tons are frequently sent off at a time; and of Shrimps the almost daily capture is enormous. Among the sandhills, at varying distances inland, there are a vast number of shells, of which we find no living representatives on the shore, obviously deposited at some distant period, when the sea extended over a large tract of country now of considerable elevation.

In Botany, the plants common to uncultivated hills and marshy places near the sea-coast are in great profusion and variety, principally flowering plants; of Ferns but few, not more than ten or twelve kinds. Mosses are numerous, and include several kinds which have hitherto been found only in the neighbourhood of Southport; of other Cryptogamic plants there is an extensive assortment, so that at all seasons we are able to procure botanical subjects of one kind or another.

We have but few Fossils in this neighbourhood, excepting the great quantities of submerged wood found in all directions around us. In Geology there is but little variety in this immediate locality, but at the distance of eight or ten miles a great change takes place in the aspect of the country and its products; the sand disappears, and extensive mosses or hills of considerable elevation, formed in most cases of deep alluvial soil, with rocks of the old red sandstone, succeed, and the botany consequently differs from that of the sand.

Alterations are constantly occurring in the appearance of the surrounding neighbourhood, from the subsidence or elevation of some of the sandhills. In one instance, a tract of country

between Birkdale and Ainsdale, with a farm and its accompaniments have been entirely buried, and the only vestiges now to be seen are the tops of some trees. The site has obtained the name of the "Lost Farm;" in fact, we rarely have a storm of wind, of long continuance, without a marked change taking place in the aspect of the hills.

On the shore, a little below the surface, is an immense deposit of peat, extending to a considerable depth, in which the remains of submerged trees abound; this extends to the mouth of the Mersey, and breaks out again on the opposite Cheshire shore, at New Brighton, and continues till it meets the Dee, at Hoylake, and, crossing this estuary, reappears on the Welsh coast. In this extent of peat, numerous animal remains are found, particularly in the vicinity of Leasowe Castle; some very perfect specimens, obtained in that neighbourhood, are in the possession of the Hon. Lady Cust, particularly the skull and horns of a species of ox (*Bos primogenius*), quite unknown in the recent state. Numerous other kinds have been exhumed in that locality, but we have not heard of any having been met with on this side of the Mersey.

We now proceed to enumerate the Mammalia found about Southport, limiting our notices to such as are met with within a distance of ten miles. A fair collection of the Natural History products of Southport may be seen at the nursery gardens of George Davis, Aughton-road, Birkdale, who has for some years sedulously collected in Natural History in combination with his pursuits as a gardener and dealer in plants.

MAMMALIA OF SOUTHPORT.

Common Bat (*Vespertilio murinus*). The species is common, and generally appears about the end of June.

Great Bat (*Vespertilio Nottulo*). This is less frequently seen than the preceding; it flies high, and may often be heard to utter a shrill squeak while on the wing.

Eared Bat (*Vespertilio auritus*). Not abundant, but is to be seen at dusk flying about with the common kind, from which its flight differs greatly.

Hedgehog (*Erinaceus europæus*). Found occasionally in shady banks and woody districts, though it is not common in the vicinity of Southport.

Common Shrew (*Sorex araneus*). Frequently to be met with in the marshy places among the sandhills. Whether from disease, or from some cause not evident, this species is often found dead in the places it usually frequents; we have found four dead ones in a morning's walk.

Water Shrew (*Sorex fodiens*). Considerably larger than the preceding species; is common in marshes, readily takes water, and has a very foetid smell. Cats will often kill, but will not eat the shrew-mice, but they are greedily devoured by owls.

Mole (*Talpa europæa*). Very common in fields and cultivated places.

Weasel (*Mustela vulgaris*). This lively little animal is not abundant, but is occasionally seen under hedges and banks.

Ermine or Stoat (*Mustela Ermina*). This species is very rarely seen in this district in its white or winter coat, when it is the ermine; in its summer dress it is not very rare, frequently visiting the warrens and poultry-houses. In changing from its brown colour to white, it always retains the black extremity of the tail.

Polecat, or Fomart (*Mustela Putorius*). This is a much larger animal than any of the preceding species; it has an offensive smell, and is very destructive in warrens and amongst poultry; it is but rarely met with in this locality.

Common Otter (*Lutra vulgaris*). It is more than probable that this species may be occasionally seen in this neighbourhood, though we have never met with it. Various places within a few miles have the name of Otter appended, as Otterstye-bridge, on the Scarisbrick-road.

Common Seal (*Phoca vitulina*). It is occasionally met with by the fishermen off Southport, and some time ago a live one was shown about the town in a cart as a curiosity.

Common Mouse (*Mus Musculus*). Too common.

Field Mouse (*Mus sylvaticus*). Found frequently.

Black Rat (*Mus rattus*). Not common, but is occasionally found in the vicinity of granaries, and farm buildings.

Brown Rat (*Mus decumanus*). Common.

Common Squirrel (*Sciurus vulgaris*). This is rare, being only found in woody situations. I am told it used to be found in Rufford Wood.

Hare (*Lepus timidus*). Abundant.

Rabbit (*Lepus cuniculus*). Abundant.

Common Dormouse (*Myoxus avellanarius*). Only to be found in woody, sheltered situations; has been met with at Ormskirk and Rufford.

Water Vole, or Common Water Rat (*Arvicola aquatica*). Very common in ditches and water courses.

Field Vole, or Short-tailed Field Mouse (*Arvicola agrestis*). Is common in gardens and cultivated grounds, and is very destructive in young plantations.

CHAPTER VII.

Ten thousand warblers cheer the day, and one
The live-long night; not these alone, whose notes
Nice-fingered art must emulate in vain,
But cawing Rooks, and Kites that swim sublime
In still repeated circles screaming loud:
The Jay, the Pie, and e'en the boding Owl
That hails the rising moon, have charms for me.

COWPER.

BIRDS OF SOUTHPORT.

THE elegance of form and disposition of colours in Birds must strike the least observant, while their habits and economy are fraught with constant interest; each kind, from the largest eagle to the minute wren, being furnished with the means and appliances best adapted for their support and for the preservation of their offspring. There are no general rules by which the various kinds exert their energies for the accomplishment of certain purposes, essential to their well-being; each species pursues its own particular mode with undeviating perseverance and instinctive accuracy. In building their nests each forms a structure peculiar to its species, and the materials of which they are composed are always the same, while in point of situation very little variation is observed. Those kinds that build in holes, either of trees or walls, or in bushes, as the Blue Titmouse and Chaffinch,

constantly assimilate the materials of the exterior of their nest to the surrounding objects. If the tree or wall be coated with lichens, the outside of the nest is covered with the same; if with green moss, this substance enters so largely into the fabric of the nest as to afford much security. Some species can scarcely be said to form a nest, but merely scrape a hole in the ground, as the Gulls and Terns, and that in so superficial a manner as to be barely sufficient to prevent the eggs rolling away. As a means of preservation, the eggs of most birds that build or nestle on the ground, are so nearly of the colour of the surrounding objects that they easily escape notice; this kind of protection is afforded to a large number of our native birds. Among the aquatic birds, some build floating nests, as the Water Hen and Coot; others interweave a leaf or stem of a growing plant, so contrived that the nest rises or falls according to the increase or decrease of the water, an instance of which is found in the Grebes.

Not the least interesting circumstance in the history of birds is their migrations. This is in consequence either of a failure of their necessary food, or change of temperature: some are unable to sustain the warmth of our summers, as many of the Duck tribe; others are not fitted for passing the winter in our northern clime, as the Swallow family; such as feed on insects resort to warmer countries, as the Cuckoo. Those species which frequent our shores during winter, have their bodies covered with a thick coat of down, which enables them to brave the severest weather. So thickly are some of the species clad, that they appear twice their real bulk, and with but few exceptions are so buoyant that no roughness of the water will sink them. The total number of

species either constantly residing or visiting Southport, is about one hundred and twenty or thirty; the constant residents are few, but they are frequently changing their localities, so that, with the exception of shore birds, we can scarcely calculate what species we may meet with at any time of the year, except during the breeding season.

The following list, we believe, will be found to be a pretty perfect record of the birds hitherto noticed in this neighbourhood. If any reader observes the absence of that favourite, the Nightingale, we may remark that it has not often, if ever, been found north of the Trent.

LAND BIRDS.

Kestrel (*Falco Tinnunculus*). Very common on the sandhills, where they prey on young rabbits, small birds, and reptiles. This species may be readily known when on the wing, by its constantly hovering over its destined prey, from which circumstance it has obtained the name in many places of the Wind-over.

Sparrow-Hawk (*Falco Nisus*). Occasionally seen on the sandhills; feeds principally on small birds and young rabbits. Mr. Graves remarks, "The kite, the ring-tailed harrier, and the moor buzzard are said to be often seen on the meres and mosses. I have occasionally seen various kinds of hawks in this neighbourhood, but at such a distance as to prevent my ascertaining the species."

Merlin (*Falco Esalon*). This elegant little species is frequently met with in pursuit of larks, and so determined is it while pursuing its prey, that I have known it pounce into a room where a small bird had taken refuge through an open window.

Short-eared Owl (*Strix brachiotus*). Not uncommon on Martin Mere, and other mosses and meres in the vicinity. It is more frequently seen during dark days than either of the other kinds of Owl, hunting over fields in search of mice, shrew-mice, and small birds; it is an autumnal and winter bird.

Brown Owl (*Strix aluco*). Usually known as the Screech Owl; not abundant, but may sometimes be met with in the slacks among the hills.

Barn or White Owl (*Strix flammea*). This is the most common species in the neighbourhood of Southport, and is often seen on fine moonlight nights hunting over the fields in search of any small animals it can find; it swallows its food whole, and rejects the fur and feathers it may have devoured, in the form of pellets.

Greater Butcher Bird (*Lanius Excubitor*). This is of rather rare occurrence; it is found on the sandhills, apparently searching for lizards; these it transfixes on thorns and tears to pieces. It is very fierce, and pursues any small bird that may approach its place of resort. It builds its nest in trees, and is in the spring the terror of its lesser neighbours.

Red-backed Shrike, or Lesser Butcher Bird (*Lanius Collurio*). Mr. Graves has given me the following interesting statement: "I have repeatedly seen this species in the vicinity of Southport; in one instances it had a large insect in its bill, and was a considerable time in search of something on which to impale it, which was at length accomplished by transfixing it on the indurated spines of a dead thistle. At another time, I watched a pair that were hunting for

insects and grubs in a potato field among the hills; they were not shy, and repeatedly passed so close to me that I could be quite certain of the species."

Hooded Crow (*Corvus Cornix*). Seen occasionally during the autumn and winter months, resorting sometimes to the shore, and at others frequenting ploughed fields, attending on agricultural operations.

Rook (*Corvus frugilegus*). Very common.

Jackdaw (*Corvus Monedula*). This species is not common, but may be occasionally seen about Halsall and Scarisbrick, in company with rooks and gulls, and about Formby, associating with gulls and terns.

Magpie (*Corvus Pica*). Only an occasional visitor.

Common Hoopoe (*Upupa epops*). "A rare straggler. A few years ago, late in the summer, an individual of this species was shot in Birkdale, and brought to me alive, having only its wing broken. It walked about apparently without fear, erecting its crest. I have not heard of another being seen in the district."—*Mr. Tyrer*.

Cuckoo (*Cuculus canorus*). Very common, I may say numerous; I have seen as many as seven at a time among the hills. *Mr. Tyrer* remarks, "the Cuckoo lays its eggs generally in the nest of the pipit lark." In the South of England, it is not unusual to find the Cuckoo's egg deposited in the nest of the hedge sparrow and pied wagtail.

Greater Titmouse (*Parus major*). Has been seen frequently in Peter-street through the summer.

Marsh Titmouse (*Parus palustris*). Frequently seen on the willows and poplars so common in this neighbourhood, and is to be met with during the whole year.

Blue Titmouse (*Parus caeruleus*). Very common.

Long-tailed Titmouse (*Parus caudatus*). This was not in Mr. Tyrer's list, but has been since given to me with two or three others as an addition. A pair has been seen repeatedly by Mr. Graves in his garden during the summer, accompanied by six or seven young ones. They probably winter with us. They have been seen at intervals as late as the end of November.

Starling, or Chepster (*Sturnus vulgaris*). Very common.

Missel Thrush, Storm Thrush, or Rain-bird (*Turdus viscivorus*).

Common; acquires the name of Storm Thrush from its habit of singing during storms; feeds on berries of ivy, privet, &c.; also on snails and slugs.

Fieldfare (*Turdus pilaris*). Not abundant, but often seen where there are trees of the mountain ash, haws, &c.; it usually arrives during October and leaves us early in the spring.

Song Thrush (*Turdus musicus*). This universal favourite is common. It has, with other species, the curious habit of carrying snails to some particular or favourite stone, against which it readily breaks the shell and so obtains the slug. In the marshes among the sandhills, many of these stones may be found, surrounded by fragments of shells, particularly those of the wood snail (*Helix nemoralis*).

Redwing (*Turdus iliacus*). Frequents the same places as the fieldfare, with which it congregates, and consumes the same kinds of food.

Blackbird (*Turdus merula*). Not abundant, but may frequently be seen in the valleys among the sandhills,

breaking the snails like the song thrush; frequents plantations and orchards.

Ring Ousel (*Turdus torquatus*). "A mere straggler; some few years ago I shot a solitary female in the Birkdale sandhills."—*Mr. Tyrer*.

Rose-coloured Ousel (*Pastor roseus*). Montagu states that, about Ormskirk, it appears almost every season. None of my ornithological friends have met with it.

Greenfinch (*Loxia chloris*). Very common.

Common Bunting (*Emberiza miliaris*). Very abundant.

Yellow Bunting, or Yellow Hammer (*Emberiza citrinella*). Common.

Marsh Bunting, or Reed Bunting (*Emberiza Scheniculus*). Frequently met with in small flocks among the reeds and tall rushes, in the slacks between Ainsdale and Formby point.

Snow Bunting (*Emberiza nivalis*). Occasionally among the reeds during the winter months, resorting to the same places as the last named species; in very severe weather it may sometimes be seen in the neighbourhood of farms, in company with other small birds.

House Sparrow (*Fringila domestica*). Abundant everywhere.

Chaffinch, or Spink (*Fringila Cælebs*). Not abundant, but usually found in the vicinity of houses.

Goldfinch (*Fringila carduelis*). This is rare; one winter it frequented Peter-street, and it has also been seen behind the Rectory, and at Birkdale, feeding on the seeds of the carline thistle.

Brown Linnet (*Fringila canabina*). Common.

Redpole (*Fringila linaria*). Occasionally seen in small flocks among the furze bushes, in the Birkdale and Ainsdale hills.

Spotted Fly-catcher (*Muscicapa grisola*). Not abundant. Mr. Graves says, "a pair have been constant visitors in my garden during the past summer, and most likely have a nest near at hand. For hours together the one or other would perch on a dead branch, flying at each passing insect and returning to the same spot. It has a very lively but short note, and was quite disposed to become familiar. They disappeared early in October."

Skylark (*Alauda arvensis*). Very abundant.

Titlark (*Alauda pratensis*). Not uncommon, frequenting fields and grassy spots among the sandhills.

Pipit Lark (*Alauda trivialis*). Common.

Pied Wagtail (*Motacilla Yarelli*). Very common.

Yellow Wagtail (*Motacilla flava*). Common in summer.

Grey Wagtail (*Motacilla boarula*). Occasionally appearing in the summer in small flocks, and are as little shy as the robin.

Lesser Petty Chaps, or Chiff-Chaff (*Sylvia Hippolais*). Not abundant, but often seen near Ainsdale.

Hedge Sparrow, or Dunnock (*Sylvia modularis*). Very common.

Whitethroat (*Sylvia cinerea*). Not uncommon.

Sedge Warbler, Reed Wren (*Sylvia Salicaria*). Common.

Robin Redbreast (*Sylvia rubecula*). Common.

Wheatear (*Sylvia Oenanthe*). Very abundant among the hills round Southport. It is frequently captured in horse-hair snares placed in holes between sods. "They are most abundant in summer, but I once liberated one that was

snared as late as the beginning of December; it was a full-grown male bird. I took another out of one of the snares that appeared to have been a prisoner some days, as it was dead, no doubt starved. They probably remain during the winter, as they have been seen on the shore, turning over the seaweed left by the receding tide."—

Mr. Graves.

Whinchat (*Sylvia rubetra*). Very common.

Stonechat (*Sylvia rubicola*). Rare, but may sometimes be met with in Birkdale and Ainsdale, frequenting the tops of furze and other bushes.

Wren (*Sylvia Troglodytes*). A winter visiter in this neighbourhood, seldom seen in the summer. "I had never observed it to breed here till the summer of 1858, when a pair made their nest and reared their young in a hole in the thatch of the cowhouse at Row-lane. In the winter there are generally Wrens about the homestead, and on fine days one may be often seen perched on the top of a post trilling his shrill ditty."—*Mr. Tyrer, in a note to me.*

Golden Crested Wren (*Sylvia regulus*). This beautiful little bird may often be seen in Manchester-road on to Church-town. Its small size and the quickness of its movements will account for its not being more frequently observed. They probably breed here, as they have been seen from June to late in the season.

Yellow Willow Wren (*Sylvia Trochilus*). Not uncommon.

Blackcap, or Mock Nightingale (*Sylvia atricapilla*). An abundant summer visiter, resorting to gardens and inclosures. Mr. Graves says, "a pair have been constant

attendants on my garden operations; they often alighted on the upper branch of a tall willow, and poured forth their delightful note for a considerable time; while singing, each bird jerked up its tail in a manner similar to that of the wheatear."

Swallow (*Hirundo rustica*). Abundant.

Martin (*Hirundo urbana*). Mr. Tyrer does not consider the Martin common in this locality.

Sand Martin (*Hirundo riparia*). Very common.

Swift, or Devilg (*Hirundo apus*). Very common.

Ring-Dove, or Cushat (*Columba palumbus*). Occasionally seen in considerable numbers, consorting with rooks, jackdaws, gulls, and other birds, in ploughed fields about Scarisbrick, Halsall, and the adjacent mosses; during winter they may be often seen in fields of turnips, the leaves of which are a favourite food.

Pheasant (*Phasianus colchicus*). Is rarely seen in the immediate neighbourhood of Southport, and when met with is only a straggler from some of the preserves a few miles distant.

Partridge (*Perdix cinerea*). Very abundant.

Quail (*Perdix coturnix*). Said to be frequently met with on the sandhills, at most times in the year; it is described as a summer visiter. I have not been so fortunate as to fall in with it, though once or twice I imagined I heard its peculiar note, between Birkdale and Ainsdale. During the autumn and winter they are often exhibited on sale, having been procured a few miles inland, by persons who obtain a livelihood by snaring birds for the market.

WADERS.

Birds whose legs are bare above the knees.

Common Heron, or Heronshaw (*Ardea major*). This is occasionally seen on the shore, as also on the meres, but it is only a straggler.

Bittern, or Bog-Bumper (*Ardea stellaris*). More frequently heard than seen; it usually frequents extensive bogs and meres; its noise may be heard at a considerable distance, resembling a heavy note on a drum or other hollow substance.

Curlew (*Numenius arquata*). Frequent on the shore, particularly about the Ribble on the north and the Alt on the south; in autumn it is often met with in stubble fields, searching for slugs, snails, worms, and any grain that may be scattered about.

Whimbrel (*Numenius phaeopus*). Not uncommon; it is less than the Curlew, its bill not so much curved; it feeds on similar substances and resorts to similar situations, and much resembles the Curlew in arrangement of its colours.

Woodcock (*Scolopax rusticola*). Scarce in the immediate neighbourhood of Southport, but it is to be found occasionally about Martin Mere, Ormskirk, Halsall, and Formby. Mr. Tyrer says, "Some years ago I shot a solitary individual in the sand hills."

Common Snipe (*Scolopax gallinago*). Frequent in the mosses.

Jack Snipe, or Judcock (*Scolopax gallinula*). Common.

Redshank (*Scolopax calidris*). Common in the marshes from September to early in the following year. I believe some breed in Martin Mere, as I have seen them on the mere in the months of May and June.

Common Godwit (*Scolopax lapponica*). Frequent on the meres and salt marshes.

Black-tailed Godwit (*Scolopax limosa*). Once or twice this bird was exposed for sale in the market, with the Red-shank and other shore birds. I have not met with it alive.

Common Sandpiper (*Tringa hypoleucos*). Not abundant, but often seen during the summer months.

Dunlin, Purre, Oxeye, or Sea-lark (*Tringa alpina*). Common; a few breed in this neighbourhood.

Little Stint, or Sandpiper (*Tringa minuta*). Common in autumn, on the meres.

Knot (*Tringa Canutus*). Arrives here about the beginning of autumn and abides during winter. I suspect that some breed on Martin Mere, as they may occasionally be seen in April and May.

Turnstone (*Tringa interpres*). Resides here during autumn and winter, resorting to the shore, salt marshes, and meres; a few probably breed here, as they have been met with in the middle of May.

Ruff, MALE; Reeve, FEMALE (*Tringa pugnax*). Formerly very abundant, but from the draining of the mosses are now comparatively rare. Their flesh is esteemed a great delicacy, and numbers are annually caught and fattened for the table. It is likely that a few remain through the year, as after the breeding season is over the males lose their ruff, which is their distinguishing mark, and can then scarcely be recognised from some of their closely-allied congeners.

Austrian Pratincole (*Glareola torquata*). A specimen of this rare bird was shot near Ormskirk, in 1807; it was long

in the possession of the late Lord Derby, and is now in the Museum, Liverpool.

Grey Plover (*Tringa squatarola*). Not uncommon in winter.

Lapwing, Tu-it, or Pewit (*Tringa vanellus*). Considered in this locality as a summer bird, but we believe it merely changes its place of resort for a short time, as we have seen them within a few miles of Southport almost every month in the year.

Golden Plover (*Charadrius pluvialis*). Not uncommon in the slacks about Ainsdale, during summer and winter; it may have been considered a distinct species in the winter season, as at that time it loses all the black on its back and breast.

Dottrel (*Charadrius morinellus*). This pretty bird regularly visits the fields and mosses round Southport, in its migrations to and from the north; they are stupid birds, and will suffer you to go close to them if you only keep in motion.

Ring Plover (*Charadrius hiaticula*). Common on the sandhills about Birkdale and Ainsdale; some breed in the marshes among the hills.

Sanderling (*Calidris arenaria*). Not uncommon.

Curlew-billed Sandpiper (*Scolopax pygmaea*). We have not met with this species, but Mr. Tyrer says, "An autumn visiter, not uncommon; individuals of this species are occasionally taken in snares on the mere in September and October, it also associates with Purres on the shore."

Water Rail (*Rallus aquaticus*). Found occasionally on the mosses and meres, but is not a common bird near Southport.

Corncrake, or Landrail (*Rallus crex*). Frequents fields and cultivated grounds, but is not common.

Oyster Catcher, Sea-pie, or Sepoy (*Hamatopus Ostralegus*).
Very common on the shore during winter, also on the salt marshes, where they are taken in nets.

WATER BIRDS—with pinnated feet.

Red Phalarope (*Tringa hyperborea*). Very rare; an individual was shot in 1832.

Grey Phalarope (*Tringa lobata*). This is not so rare as the last species, but we have not been so fortunate as to meet with it. Mr. Tyrer says, "it is occasionally met with in stormy weather, about the equinox, in the puddles on the marsh."

Bald Coot (*Fulica atra*). Occasionally on Martin Mere, and in the various sluices and water courses through the mosses.

Common Gallinule, or Water Hen (*Gallinula chloropus*).
Frequents the same places as the Coot, but is more an inland bird.

Spotted Water Hen (*Gallinula Porzana*). Not uncommon on the meres and mosses round Southport.

Crested Grebe (*Podiceps cristatus*). This, the largest of the British Grebes, is a rare visiter. Mr. Graves has seen two or three in rather severe weather, close in shore, at Formby Point, and in the Mersey, off Formby Life-boat House.

Eared Grebe (*Podiceps auritus*). Rare, but has been met with on Martin Mere.

Little Grebe, Dabchick, or Little Douker (*Podiceps minor*).

Is occasionally seen in the ponds and cuttings flowing into the Ribble, at Crossens. Mr. Graves has seen it in the vicinity of Halsall.

WEB-FOOTED BIRDS.

Avocet (*Recurvirostra Avocetta*). This is apparently a very rare visitor. Mr. Graves saw a flock of four or five birds between Crossens and the Banks.

Razor Bill (*Alca torda*). Two specimens have been found dead on the shore, one at Ainsdale, the other opposite the Fleetwood Arms.

Auk, Puffin, or Coulterneb (*Alca Arctica*). The remains of one were found on the shore; it had probably been shot at sea and floated in by the tide.

Little Auk (*Mergulus melanoleucos*). This rare little bird sometimes visits our shores; Mr. Tyrer mentions having had two brought to him, picked up on the sands.

Foolish Guillemot (*Uria Troile*). I have seen this bird at sea off Southport, in flocks of four or six; they dive so rapidly that they are difficult to obtain, but are occasionally found entangled in the fishing nets.

Common Cormorant (*Pelicanus Carbo*). This species is usually met with in rocky places. Mr. Graves saw a fine specimen perched on the ridge of a sandhill near Formby Point.

Gannet, or Solan Goose (*Sula Bassana*). Frequent off the coast during the winter months.

Scoter, or Black Douker (*Anas nigra*). Rarely comes to shore, though often seen off Southport; it is one of the few ducks scarcely fit for human food.

Golden-eyed Duck (*Anas clangula*). Not common, but may often be seen in the market.

Pochard, or Red-headed Widgeon (*Anas ferina*). Rare.

Scaup Duck (*Anas marila*). Not common.

Tufted Duck (*Anas fuligula*). Not common.

Sheldrake (*Anas Tadorna*). Not common; has been known to breed in the Ainsdale hills.

Shoveller Duck (*Anas clypeata*). Rare. We have met with this very distinct species twice, both inland, one near Scarisbrick, the other on Martin Mere.

Wild Duck, or Mallard (*Anas Boschas*). Common on inland lakes and ponds.

Pintail Duck (*Anas acuta*). Common.

Widgeon (*Anas Penelope*). Common.

Teal (*Anas crecca*). Very common in fresh water inlets.

Wild Swan (*Anas Cygnus ferus*). Only seen during very severe weather, and then but rarely.

Wild or Grey Goose (*Anas anser*). Often seen during severe weather; at times it may be met with on Martin Mere.

Barnacle Goose (*Anas Bernicla*). Occasionally seen during stormy weather.

Brent Goose (*Anas Brenta*). A common visitor on stubble fields and cultivated lands.

Goosander, MALE, (*Mergus Merganser*); Dun Diver, FEMALE, (*Mergus Castor*). Not uncommon, and frequently sold as wild ducks, but the flesh is rancid, and quite unfit for food.

Red-breasted Goosander (*Mergus serrator*.)

Smew (*Mergus albellus*). This I have only seen in the market, but more frequently than the other kinds of *Mergus*.

Northern Diver or Loon (*Colymbus glacialis*). A specimen was brought into Southport during one winter, having got entangled in the nets; it was a splendid bird, and was sold to a bird-stuffer from Manchester.

Red-throated Diver or Loon (*Colymbus septentrionalis*). Is not uncommon off the coast, and is occasionally taken in the nets.

Stormy Petrel, or Mother Carey's Chicken (*Procellaria pelagica*). This bird of ill omen is often found dead on the shore, after severe gales of wind.

Greater Black-backed Gull (*Larus marinus*). Common, both young and adult; they do not attain their full plumage till after the third year.

Lesser Black-backed Gull (*Larus fuscus*). Frequent.

Herring Gull (*Larus argentatus*). Common.

Common Gull (*Larus canus*). Very abundant, resorting with other species to fields and ploughed lands.

Kittiwake (*Larus Rissa*). Less common than the preceding.

Black-headed Gull (*Larus ridibundus*). Very common, both on the shore and inland.

Black-toed Gull (*Larus Crepiditus*). "A rare straggler, probably the young of the Arctic Gull; an individual was shot on the marsh a few years ago, in September, the weather stormy."—*Mr. Tyrer*. We are unacquainted with it.

Arctic Gull (*Larus Parasiticus*). *Mr. Tyrer* remarks, that this also "is a rare straggler, and that an individual of the species was killed at Martin Mere, a few days previous to the above-noticed specimen of the Black-toed Gull being obtained."

Sandwich Tern (*Sterna Boysii*). Not abundant.

Roseate Tern (*Sterna Dougalli*). Frequently seen with the Common Tern, about the sandhills at Formby Point, and Ainsdale, and in the slacks among the hills, where it breeds in company with other species.

Common Tern, or Sea Swallow (*Sterna Hirundo*). Very common in the above-named localities.

Black Tern (*Sterna nigra*). We have seen a few of this, associating with other species, among the Ainsdale hills.

Lesser Sea Swallow, or Little Tern (*Sterna minuta*). Occasionally seen with the other species, in the same localities.

CHAPTER VIII.

There, where the glaucous sea-reed nods,
Binding the sand with myriad tortuous roots,
In torrid spots, devoid of life, or voice
Save the quick grasshopper's perpetual shrill,
The agile Lizard basks, or flits away,
Rapid and silent as an emerald ray.

B. CARRINGTON.

REPTILES AND AMPHIBIA OF SOUTHPORT.

THE true Reptiles are cold-blooded oviparous vertebrata, respiring air by lungs exclusively, and undergoing no metamorphosis. Only two species are found here, the green and brown sand lizards. The scale-clad body and round tail, without crest, indicate their strictly terrestrial habits, and distinguish them from the amphibious tritons. The Amphibia were included by Cuvier among the Reptiles, but modern naturalists elevate them to a group of equal rank, intermediate between the reptiles and fishes. The class we are now considering offers us "the only instances of animals possessing two sets of respiratory organs; one adapted to breathe air, and the other to aërate the blood by exposing it to water." Like many insects, they undergo a metamorphosis most interesting to the physiological student, changing from the form of a water-breathing fish, with digestive organs fitted exclusively

for vegetable food, to that of a reptile breathing by lungs, and "manifesting the most voracious carnivorous appetite." These phenomena are common to the frogs, toads, and tritons, and as specimens may be obtained from every pond, we would earnestly recommend the young naturalist to watch the process of metamorphosis for himself. The spawn abounds in stagnant pools about the beginning of April. It forms jelly-like masses, full of black bead-like dots, which are the ova. The young tadpole swims by the vibrations of its long flattened tail, like a true fish. The head is rounded and fringed on each side with tufts of gills; these are soon withdrawn, and covered by folds of skin, resembling the gill-covers of fishes. The gills and tail of the tadpole form most beautiful microscopic objects. The circulation of the blood is very distinctly displayed through the clear integument. The tadpole increases in size, and at length two small tubercles are observed behind the head, the germs of the hinder extremities. These gradually elongate, and the rudimentary toes are formed. "Meanwhile, the fore legs are also budding out in the same manner, and gradually assume their distinct and ultimate form. During this process the development of the body goes on at the expense of the tail, which is gradually removed by absorption." The gills in like manner disappear, and the young frog, now perfect in all its parts, seeks the land and begins to respire air by true lungs.

The visiter to Southport will listen to few sounds more remarkable than the bell-like notes arising from the swamps at eventide. They are loud and persistent, sometimes, during the summer months, so as to be a source of annoyance to some invalids located near the salt flats. To others, however, they

are far from unpleasing. The tones are peculiar, resembling the hoarse croak of the bull-frog, and forcibly remind the traveller of the night-calls of tropical climes. Some uncertainty exists to which species these sounds are to be referred. Probably the Natterjack is the vocalist, because, as swamps abound throughout the country, and frogs are numerous enough, similar choruses would be heard elsewhere, if they originated with the common species.

REPTILES.

Common Frog (*Rana temporaria*). The Frog is too well known to need description; the species varies greatly in colour, from a bright olive yellow to almost black. The Frog deposits its spawn in large jelly-like masses; its young in the tadpole state are produced early in the year, but the time of their quitting the egg is deferred or accelerated by the cold or warmth of the season; as they appear, many are greedily devoured by newts, large aquatic beetles, and even by full-grown frogs.

Common Toad (*Bufo vulgaris*). This is less numerous than the following species; it frequents gardens and dark shady places; its aspect is by no means agreeable, but it is quite harmless, is easily tamed, and soon feeds from the hand. Its spawn is deposited in long strings or chains, usually two lines together, of several feet in length, and, like the tadpole of the Frog, is dependent on the temperature of the season for the time of its development. It feeds on slugs, worms, and winged insects, particularly bees and wasps; in very dry seasons we have known it almost bury itself in sand, in which it scrapes a hole, and

having got into it, draws the sand around it so as to be almost hidden. It is commonly found alone, whilst the next species is usually met with in companies.

Natterjack Toad (*Bufo calamita*). Readily distinguished from the Common Toad by its active movements. It is of a brighter colour, with a distinct yellow line along the back; the female is generally larger and of paler colour, with spots more clearly defined than in the other sex. These are not only numerous in fresh water pools and ditches, but also in plashy places within the influx of the sea; that such circumstances are not unusual or accidental is clear from the quantities of spawn found with them, frequently several yards in length. The spawn is found from about the middle of April to the end of May. The development of the young depends on the temperature of the weather; they are very noisy, and when congregated in large numbers their loud croaking may be heard to a great distance.

Sand Lizard (*Lacerta agilis*). A beautiful species, and more often met with than the following kind. It makes its appearance earlier than the Common Lizard; we have met with it on the Birkdale sandhills about the middle of April.

Nimble Lizard, Viviparous or Common Lizard (*Zootoca vivipara*). This is a very brilliant species; during dry and warm weather it is to be found on most of the sandhills round Southport; it bears a great degree of heat; we have known it basking in the sun reclining on a stone which was so hot as to be quite uncomfortable to touch. Worms and slugs are its common food, and we have often

seen it spring up and catch a passing insect; it is easily tamed, and will then take flies or worms from the hand.

Warty or Rough-backed Water Newt (*Triton palustris*). Is common on most of the marshes, and may be easily known by its dark, almost black, colour; feeds greedily on water insects and the tadpoles of the Frog and Toad.

Common Smooth Newt (*Lissotriton punctatus*). Frequent under stones and in damp cellars and out-houses; is sluggish in its movements; its food small worms and slugs.

There is a tongue in every leaf,
A voice in every rill—
A voice that speaketh everywhere,
In flood and fire, through earth and air!
A tongue that's never still!

'Tis the Great Spirit, wide diffused
Through every thing we see,
That with our spirits communeth
Of things mysterious—life and death,
Time and eternity!

ANONYMOUS.

CHAPTER IX.

It was the blush of morn, earth's choral hour,
And the green grass was veil'd with gossamer,
Silken as faëry tunics seen in dreams,
And set with dew-pearls, fairer far than ours!
What loom can emulate the Spider's craft,
Or weave, as they have woven thus, all time?
We call them loathsome, cruel—who can look
Upon the jewell'd Diadema, thron'd
Within her complex armature of toils,
And fail to wonder? Who hath arm'd this race
With all the lithesome serpent's fatal craft?
Set them by glebe and woodland, pool and cave,
The ancient, peerless hunters of the world?

B. CARRINGTON.

ARACHNIDA AND CRUSTACEA OF SOUTHPORT.

SOME of my readers may require to be told that Spiders, though popularly regarded as insects, are yet not so, scientifically considered. They form a department of Natural History not hitherto often pursued, though there is much in their habits, their nidification, and their modes of entrapping their prey that is highly interesting, as well as great beauty in the colours of some of the smaller species.

I have been very fortunate in obtaining the help, in this department, of one of the greatest authorities in this country, the Rev. O. Pickard-Cambridge, to whom is due the entire credit of this list of our local Spiders, and to whom I beg to express my acknowledgments for this and other acts of kindness.

The following remarks by Mr. Cambridge are valuable, as being explanatory of the principles on which the list has been compiled:—"I do not pretend to say that this is a perfect list, for on one side of Southport lies a vast tract of fen or moss land, which I have hardly ever had time to search at all; but the ground I have searched, principally the sandhills along the coast, has been ransacked pretty thoroughly; and, therefore, as the area is so much the more confused, the list is perhaps of so much the greater value. The relative abundance of species in any locality is also, I think, of importance; but the words we commonly use to denote their abundance or the contrary are generally so vague, and used or understood by different naturalists in so different a sense, that I will just in a few words try to explain the value of the general terms 'rare,' 'common,' &c., appended to the names in the list, as I use and understand them.

"The term *very common* is used to denote that the species may be taken, in its season, in the locality in question, as we should say in popular language, 'in any numbers,' that is, that a hundred or so might be captured during an afternoon of four or five hours, and this without any special search for it.

"*Common* denotes that, in popular language, 'a great many' might be taken in the above time, that is to the number of, say, forty or fifty, and this with but slight search specially for it.

“*Frequent* denotes that a score or so might be taken, in the same time, with an ordinarily careful search for it.

“*Not rare* denotes that a close search will generally procure what we call ‘a few,’ that is, from five to ten or a dozen.

“*Occasional* denotes that during the time stated, and with careful search for it, two or three may be captured.

“*Rare* would show that a specimen only would be likely to be obtained, as we should say, ‘once now and then;’ that is, about once out of several afternoons’ very careful search.

“*Very rare* would denote, that one or two specimens in the run of a season would be all that a careful search and open-eye for it would obtain.”

To assist those who may be disposed to collect in this branch of Natural History, it may be well to state the mode of preserving Spiders. Specimens should be put up in small glass tubes filled with spirits of wine, or what is better still, in small bottles, having a slight constriction or neck near the mouth, so that the cork can be compressed and the rapid evaporation of the spirit prevented.

In the following list it will be seen that out of the two tribes of the order Araneidea known to inhabit Great Britain, but one is represented; of the families making up this tribe, nine out of ten are represented (the tenth, however, contains but one British genus and one British species); and out of twenty-eight genera composing the families, eighteen are represented; and lastly, out of two hundred and seventy species contained in the twenty-eight genera, eighty are represented.

FAMILY LYCOSIDÆ.

GENUS LYCOSA.

- Agretyca*. Frequent; among grass and herbage on banks and sides of ditches, &c.
- Campestris*. Not rare; in same places as the last.
- Andrenivora*. Very rare; on sandhills.
- Nivalis*. Common; on sandhills. *New to Britain*.
- Rapax*. Frequent; in company with *Agretyca*.
- Pieta*. Not rare; on sandhills.
- Saccata*. Frequent; on moss land, &c., among grass.
- Obscura*. Occasional; in company with the last.
- Exigua*. Very common; almost everywhere.
- Cambrica*. Not rare; among grass in the slacks, but yet very local.
- Piratica*. Frequent; in same localities as *Cambrica*.
-

FAMILY SALTICIDÆ.

GENUS SALTICUS.

- Scenicus*. Not rare; on walls, posts, and palings in sunshine.
- Sparsus*. Rare; on trees, among grass, stems, and on walls.
- Floricola*. Very rare; at grass roots on north sandhills. *New to Britain*.
- Frontalis*. Frequent; at roots of grass and rubbish, on bank sides.
- Cupreus*. Very rare; in company with *Frontalis*.
- Blackwallii*. Very rare; a single adult female of this large handsome species, *new to Science*, was captured on a gate close to the shore, on the south side of the town, by the Rev. Hamlet Clarke, in September, 1855.

FAMILY THOMISIDÆ.

GENUS THOMISUS.

Cristatus. Occasional; on the ground and at grass roots.

Audax. Very rare; on the ground and at grass roots.

GENUS PHILODROMUS.

Cespiticola. Frequent; on dwarf willows on sandhills.

Oblongus. Common; at roots and on stems of star-grass, &c.

FAMILY DRASSIDÆ.

GENUS DRASSUS.

Pumilus. Rare; on bare sandhills and at roots of grass.

New to Britain.

Clavator. Very rare; under ledges of sandhills and under stones. *New to Science.*

Cupreus. Frequent; at roots of grass and moss.

Nitens. Not rare; among rubbish on dry bank sides, &c., and the adult males running on roads, &c., in spring.

GENUS CLUBIONA.

Holosericæa. Occasional; in angles of summer-houses, and in curled leaves, &c.

Amarantha. Frequent; at roots of star-grass, and in curled leaves.

Epimelas. Rare; in curled leaves and holes in posts, &c.

GENUS ARGYRONETA.

Aquatica. In dykes, among water-weed and rubbish.

FAMILY CINIFLONIDÆ.

GENUS CINIFLO.

Atrox. Not rare; under ledges of sandhills, overgrown with dwarf willow.

Similis. In outhouses, &c., not rare; very closely allied to
Atrox. This is one of our common house spiders.

GENUS ERGATIS.

Benigna. Very rare; at tips of shoots of plants, &c., in a web, and running on paths in spring.

Latens. Rare; running on ground in spring.

FAMILY AGELENIDÆ.

GENUS AGELENA.

Labyrinthica. Very common; sitting in a tube in the centre of a wide-spread net: all over the willow-grown sandhills.

Brunnea. Not rare; at roots of star-grass and weeds, &c.

GENUS TEGENARIA.

Civilis. Frequent; in outhouses and old buildings. This and
Ciniflo Similis are our two common house spiders.

FAMILY THERIDIIDÆ.

GENUS THERIDION.

Lineatum. Common; almost everywhere.

Quadripunctatum. Rare; in summer-houses and unused rooms.

Nervosum. Not rare; on bushes, &c., in a web.

Pictum. Not rare; on hollies, and in greenhouse at Mr.
Johnson's, Birkdale.

Varians. Frequent; in company with the two last.

Carolinum. Common, though local; in many spots among
dwarf willows and herbage on the sandhills.

Pallens. Rare; on Scotch firs on the moss, at Kirkby.

Variegatum. Occasional; among grass and weeds on dry
bank sides, near Churchtown, with its beautiful and pear-
shaped nest.

Filipes. Rare; beneath seaweed on shore.

FAMILY LINYPHIIDÆ.

GENUS LINYPHIA.

- Montana.* Frequent; on Scotch firs, &c.
Marginata. Frequent; in hedges, and in angles of outhouses.
Pratensis. Frequent; on low plants in woods, &c.
Fuliginea. Rare; among star-grass, &c., on sandhills.
Minuta. Not rare; among star-grass, &c., on sandhills, and in porches and unused rooms, &c.
Alticeps. Frequent; among star-grass, &c., on sandhills.
Tenuis. Common; among star-grass, &c., on sandhills.
Terricola. Common; among star-grass, &c., on sandhills: very closely allied to *Tenuis*.
Anthracina. Rare; among star-grass, &c., on sandhills.
Pulla. Rare; among star-grass, &c., on sandhills.
Ericæa. Frequent; among star-grass, &c., on sandhills.
Tonella. Very rare; among star-grass, &c., on sandhills.
 The male adult *new to Science*.

GENUS NERIENE.

- Bicolor.* Frequent; at roots of star-grass on sandhills.
Gracilis. Occasional; running on walks, rails, and pavements.
Cornuta. Occasional; among grass, &c., on sandhills.
Apicata. Very rare; among grass, &c., on sandhills.
Longipalpis. Common; among grass, under sea-weed, and on pavements.
Fusca. Rare; under sea-weed in autumn.
Agrestis. Rare; under sea-weed in autumn.
Vigilax. Very rare; among grass on sandhills.
Trilineata. Common; among grass on sandhills.
Variegata. Frequent; among grass on sandhills.

GENUS WALCKENAERA.

Aggeris. Common; at bottom of rubbish and grass on dry bank sides, near Churchtown. *New to Science*.

Monoceros. Very rare; among grass and moss on sandhills. *New to Britain*.

Fastigata. Very rare; among grass and moss on sandhills. *New to Britain*.

GENUS PACHYGNATHA.

Clerckii. Frequent; under the ha-ha wall, Formby Parsonage.

Degerrii. Frequent; among grass in sandhills, and on roads, &c., in spring.

FAMILY EPEIRIDÆ.

GENUS EPEIRA.

Quadrata. Frequent; on bushes, &c.

Apochisa. Common; on herbage, &c., at edges of dykes.

Solers. Very rare; among dwarf willows on sandhills.

Similis. Common; in balconies, windows, and greenhouses.

Calophylla. Occasional; on bushes and dwarf willows, &c.

Cucurbitina. Rare; on bushes and dwarf willows, &c.

Inclinata. Very common; everywhere.

Diadema. Very common; everywhere.

GENUS TETRAGNATHA.

Extensa. Frequent; among herbage in damp places and over water, &c., stretched at full length in its web.

CRUSTACEA.

THE name Crustacea is derived from *Crusta*, a crust or hard shell. The animals are annulose or articulated, with jointed legs, possess a double or complete circulatory system, and respire by means of branchiæ or gills. The external shell, like that of insects, is composed of a dense horny substance called Chitine, often strengthened, as in the crab and lobster, by the deposition of carbonate of lime.

The body possesses, notwithstanding the unyielding carapace, considerable freedom of motion, from its jointed structure. The typical number of rings is twenty-one, but these are often soldered together, as we observe in the crab, so that their relations are obscured. The Crustacea have the power of casting the shell at intervals, and renewing it, as the increased growth of the body requires. Otherwise, from the unyielding nature of the carapace, the included animal could not increase in size.

Long-legged Spider Crab (*Stenorhynchus Phalangium*). This curious species is sometimes found on the sands near low water mark; all the specimens we have found have been weakly and damaged, though living.

Slender Spider Crab (*Stenorhynchus tenuirostris*). Has considerable resemblance to the preceding, but is more slender in its parts. It has little pubescence on the legs, and is less abundant than the former.

Scorpion Spider Crab (*Inachus Dorsettensis*). All the Spider Crabs have a general resemblance to each other; in this species the rostrum is much shorter than in the above, and the colour is of a much duller hue.

Hyas uraneus. A specimen found near where the Whitworth guns were placed; when the legs were extended, it covered a space of four inches and a half by three in width. Its colours were not obscured, though it had various shells and zoophytes adhering to it.

Harbour Crab (*Carcinus Menas*) is the most abundant kind found on the shore. It is sometimes eaten as food by the poor; though small, its flavour is good.

Portumnus variegatus. The shell of this species may be found on the sands, but we have not seen it in the living state.

Velvet Swimming Crab (*Portunus puber*). Rare; only one specimen, and that in an exhausted state, has been found to my knowledge.

Cleansing Swimming Crab (*Portunus Depurator*). Common; is very active, and swims with great rapidity, burying itself in the sand as the water recedes.

Common Pea Crab (*Pinnotheres Pisum*). Resides in shells, oysters, scallops, cockles, &c. The sexes vary much in appearance, and have, until lately, been considered as distinct species; the female is the *P. varians* of authors.

Angular Crab (*Gonoplax angulata*). This rare species was found by Mr. Graves beyond the end of the Pier. The colours were brighter than in most other kinds.

Masked Crab (*Corystes Cassivelaunus*). Is a common species, and may be found at most seasons. In the female the front legs are less than half the length of those of the male.

Common Hermit Crab (*Pagurus Bernhardus*). The most abundant species on our shore, generally inhabiting the shell of the common whelk; when left dry it contrives to

turn the mouth of the shell downwards. It is very pugnacious; we are unacquainted with its enemies, but have met with great numbers with the abdomen and all the posterior parts eaten away.

Pagurus ulidianus? We name this species with some doubt, having met with numerous specimens inhabiting the shells of *natica monilifera*, which have a strong resemblance to the figure of this species in Bell's "British Crustacea."

Norway Lobster (*Nephrops Norvegicus*). This beautiful species is given on the authority of James Glover, Esq.

Common Shrimp (*Crangon vulgaris*).

Common Prawn (*Pandalus annulicornis*). Occasionally taken by the shrimpers, but not common, and much smaller than on the south coasts.

Minute Porcelain Crab (*Porcellana longicornis*). This minute species is often found on the sponge-like base of the Lobster's-horn Coralline; it is obtained from the size of mustard seed to a quarter of an inch in diameter, and varies in colour from a dull pale red to a brilliant scarlet, intermixed with golden yellow.

Mysis Chamaleon. A specimen was found by a friend just as this sheet was going to press.

Pyhognonium littorale. A suctorial crustacean. J. G.

CHAPTER X.

I care not, Fortune, what you me deny;
You cannot rob me of free nature's grace;
You cannot shut the windows of the sky
Through which Aurora shows her brightening face;
You cannot bar my constant feet to trace
The lonely shore at dewy morn and eve.
Let health my nerves and finer fibres brace,
And I their toys to the great children leave;
Of nature, feeling, virtue, nought can me bereave.

THOMSON.

MOLLUSCA OF SOUTHPORT.

THE Mollusca belong to the Invertebrate division of the Animal Kingdom. They are destitute of internal skeleton, and have soft bodies, often protected by an external shell, as in the banded snail of our sandhills (*Helix nemoralis*), and the common Cockle. But the shell cannot be regarded as essential to our idea of a molluscous animal, for of two species closely allied in structure, *e.g.*, the snail and slug, it is often present in one, and absent or very imperfectly developed in the other.

The Mollusca are further distinguished from the Articulata and Radiata, by the want of symmetry in the two halves of

the body, and the absence of joints or articulations, and lateral locomotive appendages.

The majority of our Shells are divided into two classes—Bivalves and Univalves. The Bivalve is a shell in two parts, a right and left valve, connected by a hinge. The Univalve is a conical or spiral shell, many of them being closed by an operculum, which is a plate attached to the foot of the animal, corresponding in shape to the mouth of the shell. “The Mollusca, though nearly all sedentary in their habits, are in their earlier stages swimming animals, being provided with cilia which enable them to move freely about. Aided by these and the ocean currents, they are dispersed, sometimes to immense distances, until they meet with conditions suitable to their growth. It is a remarkable fact that the Bivalves, at this period of their lives, have eyes, to aid them in their movements.” Thus there is a natural means by which their over accumulation in any particular part is prevented. After a few days of this free and sportive life, they begin to settle down to the conditions and localities each is destined to occupy. The Limpet attaches itself to the rock, between high and low water mark; the Cockle, the Mya, and the Razor Fish bury themselves in the sand and mud; the Teredines attack and burrow into the sides of ships or the hardest wood, and by their silent and ceaseless operations undermine some of the most important works of man; the Pholas excavates itself a home in the rocks and cliffs, by what means science has failed to discover; the Mussel forms itself a byssus or cable, by which it is attached to rocks and timber, and one species spins itself a silken nest. Some tribes retain the power of moving about; the Pecten and the Pinna take flying leaps

through the water by rapidly opening and closing their valves, the large river Mussel pushes itself along with its foot, and the Cockle jumps along the sand. The Univalves are provided with a large muscular foot, by which they crawl along the bottom of the sea, or upon the aquatic plants and seaweeds. They have a head, eyes, a mouth armed with jaws, and a tongue, called a lingual ribbon, which is covered with a variable number of minute siliceous teeth. They feed upon confervæ, seaweeds, and zoophytes; many of them are carnivorous, attacking each other and the quiet bivalves. With their file-like tongue they rasp a small hole through the shell, and then devour the helpless inmate; this will explain to the shell-gatherer why so many of the shells he picks up on the shore have little round holes drilled through them.

The Bivalves live upon the animalculæ and microscopic vegetable matter in the surrounding water; it is carried into the digestive cavities of the animal by currents caused by the action of their ciliary apparatus. A stranger coming to Southport for the purpose of collecting shells would probably be very much disappointed on his first visit to the shore, as there are certainly very few shells to be found in the immediate vicinity of the town. The best collecting ground is from Birkdale to Formby at high water mark, and on the banks near low water—at high water mark, during the period of the highest tides, especially after heavy west or south-west gales, and near low water on the slopes of banks, during low tides. It is also well to examine the shore at extreme low water during the times of the highest tides of the year, as at those parts which are not often left uncovered by the water, *Mya truncata* is occasionally found, with its long and curious

syphonal tube, alive and perfect. Several minute species may be found by collecting the broken shell and sand from the ripple marks and the slopes of banks, and examining a small quantity at a time in a shallow dish of water, at home. Dredging, unless at a very considerable distance out, is unproductive; scarce anything can be brought up but species which may be commonly found on the shore.

A collector may make a very pleasant excursion by taking the train to Formby, crossing the sandhills to the shore, about a mile distant, and walking back to Southport, in all from eight to nine miles. A great many shells and other marine curiosities may be found during the walk, and it avoids an otherwise fatiguing return journey.

The following list of marine shells includes all that are found here. If it were restricted to such as are really natives of the locality, it would be comparatively small; many species are washed up here from considerable distances, and a few are procured from fishermen, who get them in their nets, when dredging from forty to sixty miles out. The land and fresh water shells are all natives, and may be met with near the town. They are found in a variety of situations amongst the moss, and low plants and grass on the sandhills; under stones, in hedge banks, ponds, ditches, and streams. Several species may be taken by a simple trap; if a few stones, or brickbats, are placed in the little vallies amongst the hills, and examined the following day, two or three species may frequently be found under each.

MARINE SHELLS—(BIVALVES).

ACEPHALA LAMELLIBRANCHIATA.

PHOLIDIDÆ.

Pholas crispata. Rare; small living specimens have been found in pieces of rotten wood washed up by the tides, and large single valves occasionally. The nearest habitat for this species is Hilbre Island, at the mouth of the Dee, where fine living specimens may be found burrowing in the red sandstone rock at extreme low water.

Pholas candida. Occasionally washed up alive, during very heavy gales; single valves, common at all times.

GASTROCHÆNIDÆ.

Saxicava rugosa. Very rare; has been found burrowing in pieces of the Zoophyte *Alcyonium digitatum*, and also attached to *Modiola Modiolus* when brought up from deep water by the fishermen.

MYADÆ.

Mya truncata. Not uncommon. Fine specimens may sometimes be taken at extreme low water, during high spring tides.

Mya arenaria. Single valves are not uncommon; perfect shells are very rare.

CORBULIDÆ.

Corbula nucleus (the Little Basket). Occasionally found at high water mark, and on slopes of banks nearer low water. One valve is larger than the other; the smaller one has the appearance of being pressed into the larger, a feature by which the species may be instantly recognised.

ANATINIDÆ.

Thracia phaseolina. One of our most beautiful shells; rather abundant after high tides, and very fine.

Thracia convexa. Very rare, and single valves only.

SOLENIIDÆ.

Solen marginatus (Sword Shell). Rare, and generally single valves; the shell is from four to six inches long, three-quarters of an inch broad, with a groove indented at the hinder margin.

Solen siliqua (Razor Shell). Good perfect shells have been found but rarely; single valves occasionally. This species sometimes attain to a great size, nine or ten inches long, and one and a half inches broad. In many parts of the kingdom it is used as an article of food, and considered very delicate eating; it lives buried in the sand at low water, from one to two feet deep. They are caught by pushing crooked wires down the hole and hauling them up, or a little salt is dropped down the hole, which rather incommodes the animal, and he rises up to see what is the matter, when he is seized; but if it is thrown upon the sand, it will very quickly work its way down again with its powerful muscular foot.

Solen ensis (the Scymitar). Very abundant and fine. It is from three to four inches long, and curved like a bow.

Solen ensis (Var. *Magna*). Precisely the same as the preceding, but double the size, and very rare.

Solen pellucidus. Found attached to bunches of coralline; rather scarce; from one and a half to two inches long, and a quarter broad; the hinge margin is straight, the outer margin bowed. A novice would perhaps mistake the young *Ceratisolen legumen* for this species; the difference is easily known by the position of the hinge; in all the *Solens* it is near one end; in *C. legumen* it is in the centre of the hinge margin.

SOLECURTIDÆ.

Ceratisolen legumen (the Peas Pod). This is a long flat shell, as its name denotes; it lives buried in the sand at extreme low water; rather common.

TELLINIDÆ.

Psammobia ferroensis (Sunset Shell). A flat elongated oval shell, rounded at one end, and squarish at the other end, and prettily rayed with pink from the hinge to the front margin; it is common as a British species, but rare here; it is sometimes found perfect, attached to bunches of corallines.

Tellina tenuis. Common; but a very pretty species, being variously coloured rose, pink, yellow, white, &c.; it is a flat or compressed shell, rounded in front, attenuated behind, about one inch long and five-eighths wide.

Tellina fabula. Abundant; one valve of this species is smooth, the other, upon close examination, will be found to be marked with very fine concentric lines, which cause it to be slightly iridescent. They are mostly about three-quarters of an inch long, and half an inch wide, very much compressed, rounder in point, attenuated behind, much more so than *Tellina tenuis*, and nearly white.

Tellina solidula, one of our commonest shells, varying in colour through all the shades from crimson to yellow; it is a roundish, solid shell, from one quarter to three quarters of an inch in diameter.

Syndosmia alba. A pretty oval, shining, rather pellucid, white shell, moderately plentiful.

Scrobicularia piperata. Not uncommon; found in the greatest numbers opposite the Promenade, especially after a heavy

sea, when it is washed up from the mud in which it burrows. It is very flat, round, white, and varies in size, from one half to one and a half inches in diameter.

DONACIDÆ.

Donax anatinus (Wedge Shell). Common about low water mark, and often very fine. Although one of our commonest shells, it is not the least handsome, being a light olive colour outside, and frequently a brilliant clouded violet within.

MACTRIDÆ.

Macra subtruncata. Rather common, and generally small. It is white, solid, and somewhat triangular in shape.

Macra stultorum. Very common and fine. Sometimes at low water they lie in groups of hundreds together, within spaces of a few yards. The gulls break immense numbers to get at the animals.

Lutraria elliptica. Single valves occasionally met with; perfect shells, very rarely. It is a large, oblong, rather flat shell, gaping or open at the extremities.

VENERIDÆ.

Venus striatula. Common. Triangular, and looking at the shell edgeways, it is heart-shaped, has highly raised concentric lines, and is sometimes handsomely marked with rich brown rays.

Venus ovata. Very rare. Similar in shape to a cockle, but small and white, and the sculpture much finer.

Lucinopsis undata. Moderately common. A roundish shell, white, slightly tinged with rust colour; it varies from a quarter to three quarters of an inch in length and breadth.

CYPRINIDÆ.

Cyprina Islandica. Perfect shells of this fine species are rarely to be met with; single valves not uncommon.

CARDIADÆ.

Cardium rusticum. A large species of the Cockle tribe, with thick radiating ribs, bristling with tuberculous spines. Single valves are common; perfect double specimens may sometimes be met with after high tides.

Cardium edule (Common Cockle). A very common shellfish about Southport at all times. In 1858, a cockle-bed or "scour," as it is locally termed, was discovered about five miles north-east of the town, where the cockles were so numerous as to be literally shovelled up with spades; the yield for several months was from ten to fifteen tons a-week. It is scarcely possible to realise the prodigious numbers taken from the bank, as a ton contains about 80,000 individual cockles.

LUCINIDÆ.

Lucina leucoma. Extremely rare; have only found one or two single valves.

KELLIADÆ.

Montacuta ferruginosa. Very rare, and single valves. It is a small white, oval, semi-transparent shell, about three sixteenths of an inch long, generally stained with rust-colour. This and the following species are found by collecting and washing the sand and broken shell from the ripple-marks and slopes of banks.

Montacuta bidentata. Moderately common. A minute white, oval, almost transparent shell; about one-eighth of an inch long.

MYTILIDÆ.

Mytilus edulis (Common Mussel). Common. Sometimes in great numbers attached to pieces of wood or seaweed.

Modiola modiolus (Horse Mussel). Sometimes brought up by the fishermen, and frequently very large, from five to six inches in length.

Modiola barbata (Bearded Mussel). Not uncommon. Sometimes picked up along high water mark. Fine specimens have been found buried in large pieces of *Alcyonium digitatum*; they are also occasionally brought up by the fishermen.

Crenella discors. Rare. Has been found at low water, and burrowing in *A. digitatum*.

ARCAIDÆ.

Nucula nucleus. Not common. Generally single valves, attached to bunches of coralline. It is a small dull olive-coloured shell, the inside pearly white, and about twenty minute teeth on the margin at one side of the hinge, and ten at the other side.

OSTREADÆ.

Pecten maximus (the Great Scallop). Great numbers of this, our largest British bivalve, are brought up by the fishermen.

Pecten opercularis (the Common Scallop, or Fan Shell). Not uncommon, but generally small; it is a handsome species, varying much in colour, being sometimes yellow, orange, crimson, brown, purple, white, or mottled.

Ostrea edulis (the Oyster). Not very common on the shore; occasionally brought up by the fishermen.

Anomia ephippium. Occasionally found upon *Modiola modiolus*.

This is a curious Mollusk; it is attached to shells, rocks, and stones by a muscle projected through an orifice in the lower valve, near the hinge; it is a lustrous pearly shell, and adapts itself to the shape of the body to which it is attached.

UNIVALVES.

GASTEROPODA PROSOBRANCHIATA.

PATELLIDÆ.

Patella vulgata (Common Limpet). Rare, and when found very much worn.

DENTALIADÆ.

Dentalium entalis (Tooth Shell). Some years ago this was a common shell, but now is only occasionally found, and generally attached to corallines. Fine specimens are about an inch and a half long, tubular, tapering to the posterior end, and slightly curved; perfectly white.

Dentalium Tarentinum. The same remarks apply to this species, as to *D. entalis*, with the exception of the specific differences. It is a thicker and straighter shell, the posterior end marked with very fine raised lines, lengthwise, so fine, as to require the aid of a microscope to discover them; they are the principal characteristic mark of the species.

FISSURELLIDÆ,

Emarginula reticulata. Rare. Found at high water mark, and amongst corallines. In shape it is like a cap of Liberty, and has a slit in the front margin.

TROCHIADÆ.

Trochus sisyphinus (Top Shell). Moderately common. A cone-shaped shell, granulated in narrow spiral bands.

LITTORINIDÆ.

Littorina littorea (Periwinkle). Not common. It is one of the most abundant shells on rocky coasts.

Littorina rudis. Rare. A smaller and lighter coloured shell than the last.

Rissoa vitrea. Rare. Minute, shining white. Found by collecting and washing sand, as previously stated.

Rissoa ulva. Very common. In walking along the shore we frequently see patches of what the stranger would suppose to be black sand; if a portion of it is taken up, it will be found to be a mass of these small shells.

Rissoa castanea. Rather rare. It is found amongst *R. ulva*, and is similar in shape and colour, but very much larger.

TURRITELLIDÆ.

Turritella communis (the Common Cockspur). Very common on most parts of the shore.

CERITHIADÆ.

Apporhais pes-pelecani (the Bird's-foot Shell). A handsome and not an uncommon species. The lip is extended out in such a way as to resemble a bird's webbed foot, from which its specific name is derived.

SCALARIADÆ.

Scalaria Turtonis (Wentle Trap, or Double Cockspur). Not uncommon. A handsome shell, turreted in shape, the whorls round and distinct, and crossed lengthwise with rather flat, pale brown, moderately close ribs.

Scalaria communis (Common Wentle Trap). Moderately common. Same shape as the preceding, but the whorls more distinct, and the ribs thicker and more prominent.

PYRAMIDELLIDÆ.

Aelis supranitida. Rare. A pretty but very small shell, from one-tenth to three-tenths of an inch long, conical or turreted in shape. Good specimens are ornamented with raised spiral lines or ridges. It is considered rather rare as a British species. Found by collecting and washing the sand, as previously stated.

Eulima polita. Very rare. Lanceolate or tapering in shape, being about five-eighths of an inch long and one-eighth broad at the base; colour, a shining porcelain white.

Eulima subulata. Not uncommon. Very narrow, finely tapering, light brown, with spiral bands of a darker shade.

Chemnitzia elegantissima. Very rare. A minute, white, spiral shell, with elevated oblique ribs on the whorls. Sometimes found along with *A. supranitida*.

Odostomia interstincta. Rare. Found with the above. It is a minute species, requiring the aid of the microscope to identify it. It is perfectly white, with longitudinal ribs on the whorls.

NATICIDÆ.

Natica monilifera. Common. A handsome shell, being globular in shape, highly polished, and ornamented with a spiral band of brown spots.

Natica nitida. Not common. Similar to *N. monilifera*, but smaller, about a quarter of an inch in diameter, and not quite so globular, the spiral a little more produced.

MURICIDÆ.

Murex erinaceus (Sting Winkle). Not uncommon, though generally rather small.

Nassa inorassata (Dog Whelk). Rare, though common as a British species. In shape it is similar to the common Whelk, about half an inch long, with thick longitudinal ribs.

Purpura lapillus. Not common. Being naturally an inhabitant of rocky localities, the specimens are often much worn when they arrive here. It is fusiform in shape, very solid, and about an inch long. The animal secretes a milky fluid, which in former times was used in the production of a rich purple dye.

Buccinum undatum (Common Whelk). Moderately plentiful; very fine specimens may sometimes be found after storms. This is a common shell all round the British coasts. In many parts it is taken in great numbers, and used for bait; and quantities are sent to the London markets, where they are boiled and eaten.

Fusus Islandicus. Very rare; generally weather-worn.

Fusus antiquus. Common after heavy gales, in company with the Whelks, from which it may be known by the canal being more elongated, and the shell generally smoother and more tapering. The fishermen sometimes bring up splendid specimens from deep water, measuring from six to seven inches long, and perfectly white.

CONIDÆ.

Mangelia gracilis. Very rare; one or two specimens have been found near low water.

CYPRÆADÆ.

Cypræa Europæa (Cowrie). Not common. It is about the size and shape of a coffee berry, with raised lines or ribs across; a pale flesh colour.

GASTEROPODA OPISTHOBRANCHIATA.

The Mollusks of this order may be termed sea-slugs, since the shell, when it exists, is usually small and thin, and wholly or partially concealed by the animal.

BULLIDÆ.

Cylichna cylindracea (the Paper Roll). Named from its cylindrical shape. Rare on this coast. It is about half an inch long, and three sixteenths of an inch wide; white and shining.

Cylichna obtusa. Similar to the above, but half the length. A few years since this was plentiful close to the town; it is now more abundant four or five miles to the west, at high water mark.

Tornatella fasciata. Very abundant. It is not unlike a shuttle in shape, but broader in proportion, and beautifully coloured with bands of pink and white.

Scaphander lignarius. Many years ago this was not an uncommon shell on our shore; it is now extremely rare.

Philina aperta. Common. An extremely thin, white, translucent shell, without spire, and a wide open mouth.

CEPHALOPODA DIBRANCHIATA.

SEPIADÆ.

Sepia officinalis (the Common Cuttle Fish). The internal shell of this mollusk is occasionally washed up in considerable

numbers during heavy gales in the winter. It is from six to eight inches long, and three inches wide, oval, and extremely light in proportion to its bulk. The class *Cephalopoda* ranks the highest in the mollusca, as in the complexity of its organisation it approaches most nearly to the vertebrated animals. It is named from the locomotive organs being arranged round the head; when in the water, or crawling amongst rocks or on the strand, it has the appearance of being head downwards. The *Sepiadæ* have eight short lanceolate, and two long tentacular arms. The large and prominent eyes are situated underneath the arms, one on each side; above, in the centre of the circle of arms, is a strong horny beak. The arms and tentaculæ, besides being organs of locomotion, serve to catch and hold their prey; and, as they are covered with small suckers, they are enabled to maintain so tenacious a hold, that any unfortunate crab or fish with which they come in contact is left without escape. Whilst possessing such powers of offence, they are gifted with most singular faculties of defence. Like the chameleon, they have the power of changing their colour, to delude their foes; they also possess an ink bag, from which, when pursued, they eject a quantity, which envelops them in a black cloud, and covers their escape. The contents of the ink bag is collected, and forms the brown pigment, sepia, used by artists.

Sepia biserialis. A single specimen of the internal shell or bone of this rare species has been found on the Southport shore. It is much smaller than *S. officinalis*, lanceolate in shape, the point curved a little outwards, and the base slightly inwards.

LAND AND FRESH WATER SHELLS.

ACEPHALA LAMELLIBRANCHIATA.

CYCLADIDÆ.

Cyclas rivicola (River Cycle, or Fresh Water Cockle). Found in many of the streams and ditches about Southport, but small; in the canal at Burscough Bridge they are abundant and fine. In shape it is similar to a young cockle, but more compressed; finely striated, greenish brown in colour, with a narrow yellow band round the margin.

Cyclas cornea (Horny Cycle). In almost any ditch. It is a round dumpy shell, generally dark brown, varying in size from one eighth to half an inch in diameter.

Cyclas calyculata (Capped Cycle). Found sparingly in a stream by the first bridge beyond Churchtown, along the road to Martin Mere. It is a very transparent shell, about a quarter of an inch long; the umbones—the parts above the hinge—very prominent.

Pisidium amnicum (River Pera). Not uncommon in ditches on the moss, and on the Martin Mere road, beyond Churchtown, but very small, rarely measuring more than one eighth of an inch long; it is common and very fine in the canal at Burscough Bridge. In shape it is obliquely oval, with minute raised ribs.

UNIONIDÆ.

Anodonta cygnea (Swan Fresh Water Mussel). Common in many of the streams and ditches on the moss, varying from two to four inches in length, oval in shape, olive or brown outside, bright pearly within. It is a common British shell; individuals have been computed to contain as many as 600,000 young in their gills.

GASTEROPODA PROSOBRANCHIATA.

PALUDINIDÆ.

Paludina Listeri (Marsh Shell, or River Snail). Not uncommon in many of the ditches on the moss. At the approach of winter it buries itself deep in the mud, and makes its appearance again with the warm days of April. It is a very handsome shell, transparent horn colour, with three dark brown spiral bands. Fine specimens are one and a half inches high, and one and quarter inches wide at the base, with five or six very convex volutions. When the animal is retracted, it is closed by an operculum, a sort of trap door, which should always be fitted in the shell when the animal is taken out. It is both useful and ornamental in an aquarium, the animal being beautifully sprinkled with golden spots, and it feeds mostly on the confervæ growing on the sides of the glass.

Bithinia tentaculata (Tentacled Bithinia). Common in most ditches on the moss; the shell is about a quarter of an inch wide at the base, and half an inch high, with five rather flat volutions of dark brown or yellowish horn colour, the aperture closed by an operculum.

Valvata piscinalis (Stream Valve Shell). Shell globular, with an elevated obtuse spire, the volutions well rounded and distinct; the aperture is closed by a valve or lid. It is common in the large drains on the moss.

Valvata cristata (Crested Valve Shell). Not uncommon in the same situations as the preceding, but a very different shell in appearance, not being more than one-eighth of an inch in diameter; discoid, flat above, and concave or umbilicate beneath.

GASTEROPODA PULMONIFERA.

LIMACIDÆ.

Arion empiricorum (Black Arion). Common in the fields after rain, and in damp weather; as moisture is an absolute necessary of the creature's existence, it is rarely seen in very dry weather. This is the common jet black snail; it varies in colour according to locality. It is found in woods, of many colours—white, yellow, orange, and reddish brown. It is essentially a vegetable feeder, but will sometimes regale itself with a dead worm. It has no distinct shell.

Limax agrestis (Milky Slug). A small dark or reddish grey slug. Common in fields, hedge banks, and gardens; it is a voracious vegetable feeder. The shell is a small squarish oval, white calcareous plate, slightly convex above, situated underneath the skin of the shield, a little behind the head. The animal when extended measures from one to one and a half inches long, and when irritated it pours out a white milky fluid from the pores all over its body.

Limax cinereus. Not so common as the preceding; found amongst grass in damp situations, under logs of wood, about outhouses and gardens. It is a large, dark grey slug, sometimes nearly black, measuring from three to five or six inches long, and proportionally bulky; the back and tail coarsely wrinkled, and mucus colourless. The shell is internal, and from a quarter to one half inch long, and half that width, slightly convex, rather pearly white and sometimes tinged with pink.

HELICIDÆ.

Vitrina pellucida (Transparent Glass-bubble). Small, extremely thin and transparent, very highly polished, and of a pale watery green colour. Not uncommon amongst moss and under stones in the Birkdale sandhills.

Zonites alliarius (Garlic Snail). Found under stones in the sandhills, but rather rare. It is about a quarter of an inch in diameter; upper side slightly convex, very bright, shining, rather transparent, yellowish horn colour; the species is easily recognised, as when the animal is irritated with a touch, it emits a very strong odour of garlic.

Zonites nitidulus (Dull Snail). Very rare and small, has been found amongst moss, on the hills at the end of "Peter's slack."

Zonites purus (Delicate Snail). Very rare. Amongst moss in the Birkdale hills. Shell small, about one-sixth of an inch in diameter, depressed, transparent, yellowish white, rather shining, and slightly wrinkled.

Helix nemoralis (Girdled Snail). One of our commonest shells, being found everywhere amongst the sandhills; at the same time it is the most beautiful. It is very variable in its colour and markings, being sometimes white, yellow, pink, reddish, or brown, or marked with five or fewer rich chocolate bands.

Helix caperata (Black-tipped Snail). Common in Birkdale, particularly on the sandhills between the two roads at the entrance to the Park.

Helix hispida (Bristly Snail). Sparingly found in the hedges of the fields near the Rectory, also in Birkdale. It is about a quarter of an inch in diameter, five or six whorls,

slightly convex, horn coloured, and covered with very fine short bristles.

Helix pulchella (White Snail). Not uncommon in the hills, amongst moss, at both ends of the town. It is a beautiful little shell, less than one eighth of an inch in diameter; a pure opaque white, and sometimes brownish, rather flat above, a small umbilicus beneath, the mouth reflexed, and a little thickened round the margin.

Helix pulchella (var. *Costata*). Found with the preceding. The same size and shape, of a pale brown tint, and ornamented with raised radiating ribs, only visible under the magnifying lens.

Helix rotundata (Radiated Snail). Very rare; amongst grass and under stones in the sandhills. Nearly a quarter of an inch in diameter, under side almost flat; grey, with dark brown spots.

Helix pygmaea (Pigmy Snail). Very rare; found in damp situations, under pieces of wood or stones. Very minute, convex on both sides; shining, brown, semi-transparent.

Pupa muscorum (Margined Chrysalis Shell). Moderately common; amongst moss and low plants on the sandhills. As the name denotes, the pupæ are shaped like a chrysalis. This species is about one-eighth of an inch high; shining, dark brown, the margin a little reflected, with a thick white band round the outside, and a single minute tooth in the centre of the aperture on the body whorl.

Pupa edentula (Toothless Whorl Shell). Rather scarce. Found in the same situations as the preceding; about the same size and colour, but without tooth; the edge of the aperture or lip simple, without margin or rib.

Zua lubrica (Common Varnished Shell). Not uncommon in the sandhills and fields behind the Rectory, but oftener dead and eroded than living. The shell is about a quarter of an inch high, cylindrical oblong, reddish brown, very bright and glossy.

Succinea putris (Common Amber Shell). Rather abundant in a small watercourse, in the Birkdale hills, half a mile beyond the church, and under the bridge by the boundary stone, on the Scarisbrick road.

LIMNÆADÆ.

Physa fontinalis (Stream Bubble Shell). Rather plentiful in the river Nile, and in the streams on the moss. The mouth of this shell opens to the left hand, by which characteristic it is easily recognised; it is very thin, transparent, brown colour, and highly polished.

Physa hypnorum (Slender Bubble Shell). In the same localities as the above, but not quite so frequently. It has the same characteristics, with the exception of being longer and narrower in proportion.

Planorbis albus (White Coil Shell). Moderately common in the stream by the first bridge on the Martin Mere road; dark coloured, finely striated, concave underneath, slightly so above; the outside coil rapidly enlarging.

Planorbis vortex (Whorl Coil Shell). Common in many ditches and stagnant pools; a thin light brown shell, with six or seven volutions, about three eighths of an inch in diameter, flat above, and slightly concave beneath.

Planorbis spirorbis (Rolled Coil Shell). Found with *P. vortex*, but not so commonly. It is light brown, slightly concave on both sides, six volutions.

Planorbis contortus (Twisted Coil Shell). In many ditches on the moss. The whorls are very closely coiled and very narrow, the upper surface rather flat, the underneath deeply concave.

Limnæus pereger (Puddle Mud Shell). In every ditch, pond, and stream, where it may be commonly found crawling about the bottom.

Limnæus stagnalis (Lake Mud Shell). Fine specimens may be found in ditches in Birkdale Park, and in ditches on the Scarisbrick road and on the moss. It is a handsome shell, light brown, an inch and a half high, the body whorl large and open, the spire of six or seven volutions tapering to a fine point.

Limnæus truncatulus (Ditch Mud Shell). Not uncommon in most ditches on the moss, generally at the surface of the water, close to the side. Shell dark brown, about a quarter of an inch high.

Limnæus palustris (Marsh Mud Shell). Rather common in ditches on the moss, in Birkdale, and in the neighbourhood of Churchtown. Shell dark brown, about three quarters of an inch high, body whorl longer than broad, the spire gradually tapering to a point.

Ancylus fluviatulus (Common River Limpet). Very rare. Found on stones in a stream on the moss. The shell is about a quarter of an inch in diameter and height, cone-shaped, with the apex curved backwards and near one end. Semi-transparent, light greenish horn colour; inside, bluish white, shining.

CHAPTER XI.

And here were coral bowers,
And grotts of madrepores,
And banks of sponge, as soft and fair to eye
As e'er was mossy bed
Whereon the wood-nymphs lie
With languid limbs in summer's sultry hours.
SOUTHEY.

ZOOPHYTES OF SOUTHPORT.

THE term Zoophyte is applied to all those productions which, bearing a strong resemblance to vegetables in form and some other particulars, are yet of an animal nature. The more arborescent of them are often called Corallines, a name which is peculiarly appropriate, being a derivative of the word Coral, to which they are intimately allied, and by means of which such gigantic changes are daily being effected. Islands and continents are being raised from the deep abysses of the ocean, to be hereafter clothed with vegetation, and probably made the seat of a busy population—and these mighty results are being brought about by the agency of minute creatures,

scarcely perceptible to our unaided sight, but whose operations, though slow, silent, and invisible, are yet certain and increasing :—

Unconscious, not unworthy, instruments,
By which a hand invisible was rearing
A new creation in the secret deep.
Omnipotence wrought in them, with them, by them;
Hence, what Omnipotence alone could do
Worms did. I saw the living pile ascend,
The mausoleum of its architects,
Still dying upwards as their labours closed;
Slime the material, but the slime was turned
To adamant by their petrific touch;
Frail were their frames, ephemeral their lives—
Their masonry imperishable.

MONTGOMERY.

Amongst the many recent cultivators of this interesting department of natural history, the name of the late Dr. Johnston, of Berwick, stands pre-eminent; his excellent work on the British Zoophytes has done much to exalt the subject and to diffuse a more general taste for its cultivation.

“Zoophytes,” to adopt the language of Dr. Johnston, “present to the physiologist the simplest independent structures compatible with the existence of animal life, enabling him to examine some of its phenomena in isolation, and free from the obscurity which greater complexity of anatomy entails. The means of their propagation and increase are the first of a series of facts on which a theory of generation must arise; the existence of vibratile cilia on the surface of the membrane, which has since been shown to be so general and influential among animals, was first discovered in their study, and in them is first detected the traces of a circulation carried on

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independently of a heart and vessels. The close adhesion of life to a low organization; its marvellous capacity of redintegration; the organic junction of hundreds and thousands of individuals in one body, the possibility of which fiction had scarcely ventured to paint in its vagaries, have all in this class their most remarkable illustration."

Not much more than a century has elapsed since the true nature of these productions was first discovered; prior to that period various opinions were entertained respecting them. By one class of persons—and these were by far the most numerous—they were regarded as the undoubted subject of the vegetable kingdom, and were so arranged and classified in the various systems of the most learned botanists of the day. Nor is this to be wondered at, when we consider the striking resemblance which these objects bear to vegetables both in form and habits; some of them being eminently arborescent in their mode of growth, and being fixed by roots, either imbedded in the sand, or attached to rocks, stones, and other substances, in the same manner as seaweed, and consequently being incapable of locomotion, except in the brief period of their embryonic life, a character at that time considered essential to constitute an animal, being possessed in common with all the animals then known.

By a second set of persons, at the head of whom stands the illustrious Linnæus, all the horny and flexible zoophyta were considered to hold a station intermediate between the animal and vegetable kingdoms, partaking of the nature of both. The Lithophyta were, however, arranged by him in the animal kingdom, on the supposition that lime was always an animal product. "The animalecules of the Lithophyta, like the

testaceous tribes," he said, "fabricated their own calcareous polypidom, forming the whole mass into tubes, each ending on the surface in pores or cells, where alone the animal seems to dwell; but the polypes of the proper zoophyta, so far from constructing their plant-like polypidoms, were, on the contrary, the productions or efflorescences of it; just as the flowers do not make the herb or tree, but are the results of the vegetative life proceeding to perfection. Polypes, according to this fancy, bore the same relation to their polypidom that flowers do to the trunks and branches of a tree—both grew by vegetation; but while the one evolved from the extremities blossoms, which shrunk not under external irritation, and were therefore properly flowers, the other put forth flowers, which, because they exhibited every sign of animality, were therefore, with reason, considered animals." In a letter to Ellis he remarks, alluding to the Zoophytes, "they are, therefore, vegetables, with flowers like small animals." In his "Diary" he further remarks that they are "vegetables with respect to their stems, and animals with respect to their florescence."

Zoophytes were deemed by another party to be of mineral origin. This theory was particularly advocated by Henry Baker. "The rocks in the sea on which these corals are produced," he says, "are undoubtedly replete with mineral salts, some whereof, near their surface, being dissolved by the sea water, must consequently saturate with their saline particles the water round them to a small distance, where, blending with the stony matter with which the sea water always abounds, little masses will be constituted here and there and affixed to the rocks. Such adhering masses may

be termed roots, which roots, attracting the saline and stony particles, according to certain laws in nature, may produce branched or other figures, and increase gradually by an apposition of particles becoming thicker near the bottom, where the saline matter is more abounding, but tapering or diminishing towards the extremities, where the mineral salts must be fewer in proportion to their distance from the rock whence they originally proceed; and the different proportions of mineral saline particles of the stony or other matter where-with they are blended, and of marine salt, which must have a considerable share in such formations, may occasion all the variety we see. Nor does it seem more difficult to imagine that the radiated, starry or cellular figures along the sides of these corals, or at the extremities of their branches, may derive their productions from salts incorporated with the stony matter, than that the curious delineations and appearances of minute shrubs and mosses on slates, stones, &c., are owing to the shootings of salts intermixed with mineral particles; and yet these are generally allowed to be the result of mineral steams and exhalations."

It is scarcely necessary to observe, that all these theories, however ingenious and interesting, are yet untenable; the beautiful and poetic hypothesis of Linnæus is, however, the nearest approximation to the truth. We learn from Dr. Johnston's "Introduction to the British Zoophytes," on the authority of M. de Blainville, that Ferrante Imperato, an apothecary at Naples, was the first naturalist distinctly to publish, as the result of his own observations, the animality of Corals and Madrepores; and he is said to have accompanied the description of the species which fell under his notice with

illustrative figures of considerable accuracy, notwithstanding his "*Historia Naturale*" was published so early as the year 1599.

This discovery, however, had no result, since there is evidence of its entire rejection and ultimate neglect by those who studied nature. It is to John Ellis, a London merchant, in the middle of the last century that we are indebted for having placed the animality of Zoophytes beyond all doubt or controversy. "There was nothing unformed or mystical in Ellis's opinion. Certain marine productions, which, under the names of Lithophyta and Ceratophyta, had been arranged among vegetables, and were still very generally believed to be so, he maintained and proved, with a most satisfactory fulness of evidence, to be entirely of an animal nature, the tenements and products of animals similar in many respects to the naked fresh-water polype. By examining them in a living state, through an ordinary microscope, he saw these polypes in the denticles or cells of the Zoophyte; he witnessed them display their tentacula for the capture of their prey; their varied actions and sensibility to external impressions and their mode of propagation; he saw, further, that these little creatures were organically connected with the cells, and could not remove from them, and that although each cell was appropriated to a single individual, yet was this united by a tender, thready line to the fleshy part that occupies the middle of the whole coralline, and in this manner connected with all the individuals of that coralline. The conclusion was irresistible: the presumed plant was the skin or covering of a sort of miniature hydra,—a conclusion which Ellis strengthened by an examination of their covering separately, which he said

was as much an animal structure as the nails or horns of beasts, or the shell of the tortoise: for it differs from sea-plants, properly so called, such as the Algæ, Fuci, &c., which afford in distillation little or no traces of a volatile salt; whereas the corallines afford a considerable quantity, and in burning yield a smell somewhat resembling that of burnt horn and other animal substances, which of itself is a proof that this class of bodies, though it has the vegetable form, yet is not entirely of a vegetable nature."

It would be foreign to the nature of this work to enter into the minute anatomy, development, or classification of the various tribes of Zoophytes. The subject has been investigated with great industry and success by recent observers, and for a summary of our present knowledge we would refer students to Dr. Carpenter's work on the Microscope, Landsbrough's "Popular History of British Zoophytes," and the classical work of Dr. Johnston.

Spongia mamilaris (Nipple Sponge). We were much gratified in obtaining this interesting species in a living state, left on the sands after a very heavy gale of wind. It continued to eject water from the summits of the projecting parts for several days after it was found. It is the only sponge we have been able to procure on this shore retaining its vitality.

Hydractinia echinata. A very common and abundant species, found coating a variety of old as well as living shells, on which it is most abundant, such as *Buccinum undatum*, (the Common Whelk), and the *Natica monilifera*. It has been stated that most of the shells encrusted by this

polype, are tenanted by the Hermit Crab; we have frequently found them so, but it does not hold good as a general rule; in several instances we have found this species growing on *Mya truncata*.

Coryne pusilla? On seaweeds, old shells, and frequently on other zoophytes. The species are all very small, and are only accidentally to be met with.

Eudendrium rameum. Frequently thrown ashore after heavy gales, adhering to old shells, stones, and occasionally on the stems or roots of the larger kind of seaweed.

Eudendrium ramosum. This and the last species are rarely obtained with living polypes, except from deep water, in five to twenty fathoms. It is often brought up in the trawl nets.

Tubularia indivisa (Tubular Coralline). This curious species inhabits deep water, and is commonly thrown ashore attached to stones and shells; we have frequently obtained specimens with the living polypes on, by following out the receding tide. After strong winds it is to be met with in great abundance on the shore, and they are obtained by dredging in from five to twenty fathoms with the living polypes, and may be kept alive in the aquarium for a considerable time, if well supplied with sea water. It grows from three or four inches to a foot or more in height. Is of a dull horn colour, and grows mostly in dense clusters. The polypes are of a bright red colour, and are usually thrown off after a few days' continuance, and are soon renewed. The species varies considerably in general appearance, being in some instances quite straight and entire, in others much curved and branched.

Tubularia Laryna. A very delicate species, and much clustered; of a lighter colour than the preceding, but is smaller and more transparent. Is found at times in abundance, on the rejectamenta left by the receding tide. It forms tufts from one to two or three inches in height, and to obtain the polypes alive must be procured from deep water.

Tubularia gracilis. A beautiful species, much resembling *T. indivisa*, but more slender. Its polypes are larger and brighter coloured than in that species. It usually attains the height of three or four inches, growing on other species of zoophytes, and is only to be obtained alive from deep water. It is not abundant here, though, like numerous other kinds, it is cast ashore during severe weather.

Helicina helicinum (Herring-bone Coralline). This beautiful species is to be met with in very considerable abundance at certain seasons, but is only found after rough weather; in May and September we have found it with the living polypes, adhering to shells and stones. It is so much like a diminutive dry tree, that it is frequently passed as a decaying vegetable. After stormy weather it may be found in considerable quantities from Formby to Crossens.

Sertularia polyzonias. A very pretty and not uncommon species, affording a beautiful microscopic object. Is mostly found on stones, shells, and seaweed. It varies from one to several inches in height, is of a pale fawn colour, with the vesicles of a clear colourless substance, giving out prismatic reflections. We have found it lining the inside of the *Cardium aculeatum* (the Prickly Cockle).

Sertularia rosacea (Lily or Pomegranate-flowered Coralline).

On shells, stones, corallines, and seaweeds. A most beautiful species, and found in tolerable abundance on the receding of the tide. It is from one to two inches in height, is extremely delicate and slender; of a dusky straw colour, sometimes with a rosy tint; it creeps along the substance on which it grows, and is to be met with on the sands from Formby to Crossens.

Sertularia abietina (Sea Fir). One of our more beautiful zoophytes. It is very abundant; parasitic on stones and shells in deep water, and after high tides or stormy weather is thrown in great quantities on the shore, but rarely obtained with living polypes, except when dredged up from deep water. Is frequently quite encrusted with serpulæ and small mussels; at times coated with various species of *Lepralia* and *Celepora*.

Sertularia fallax. A small but very elegant species. Not abundant; but to be found attached to oysters and scallops, and left ashore by the retreating tide. A native of deep water.

Sertularia tamarisca (Sea Tamarisk). Frequently found after spring tides or rough stormy weather. Is attached to shells and stones; at times forming clusters eight or ten inches in height. When recently left by the tide and with polypes living, its general colour is bright amber, but soon changes to a dull brown. Is an inhabitant of deep water, and is occasionally brought up in the dredge-net. We sometimes see it exposed in the market, growing on oysters.

Sertularia filicula (Fern Coralline). This common, but beautiful species, is frequently found with its polypes alive growing on seaweed, and, like the last species, is much encrusted with *Lepralia* and *Serpulæ*; it will live for a considerable time if well supplied with sea-water, and with the animals inhabiting the shells form beautiful microscopic objects.

Sertularia operculata (Sea Hair). A common and very elegant species, growing in small dense tufts on shells and seaweed, and being found in shallow water, is more easily obtained with living polypes than some other species.

Sertularia argentea (Squirrel's Tail Coralline). Very common, growing on oyster and other shells, and on the roots and stems of the larger fuci. Some of the most beautiful specimens obtained were parasitical on the shells of *Pholas candida*. From its dense mode of growth, and the length and softness of its branches, it has acquired the name of Squirrel's Tail Coralline. After high tides, or stormy weather, it is thrown ashore in large masses along the entire coast; it is but rarely found with living polypes, except when dredged up from deep water.

Sertularia cupressina (Sea Cypress). Is occasionally found on the shore after strong westerly winds; it is an elegant species, and is procurable by deep dredging.

Thuiaria Thuia (Bottle Brush Coralline). A very curious species, frequently found on the recess of the tide, growing on shells and stones. It varies much in size, from a few inches to nearly a foot in length, and, except when procured from deep water, it is rarely found with living polypes.

Thuiaria articulata (Sea Spleenwort, or Polypody). On shells and stones, sometimes in considerable abundance, at other times not a specimen is to be found on the shore for many weeks together; it is to be obtained from deep water, growing in clusters on the base of *Antennularia*. We have kept them alive for a considerable time.

Antennularia antennina (Lobster's Horn Coralline, or Sea Beard). Parasitic on shells and stones in deep water, forming dense clusters; it is a beautiful species, and is often dredged up from the scallop bank, off Southport. We have obtained some specimens, nearly eighteen inches in length; its colour, when first obtained, is bright, but it soon changes to a dull horn colour. In the sponge-like base of one of the larger specimens we obtained a number of very minute crabs, some not exceeding hemp seed in size, and the largest about the third of an inch long, of a brilliant red colour; some of the females had bundles of ova nearly as large as their bodies.

Antennularia ramosum (Branching Lobster's Horn Coralline). This is nearly allied, if not a variety of the preceding. Large specimens are procured from deep dredging in the same localities as the last species.

Plumularia falcata (Sickle Coralline). A beautiful species, abundant on the receding of the tide.

Plumularia cristata (Crested Coralline). Frequently thrown ashore growing on the *Halydrys siliquosa* (the Poddied Seaweed), in great profusion; also on other kinds of fuci, shells, and stones: the vesicles form a beautiful microscopic object, and are readily obtained. They may be gathered in profusion in the months of March and April,

and again in the end of August and September, often parasitic on *Plumularia falcata*.

Plumularia setacea. Common on shells and other corallines, and the coarser kinds of fuci, and growing in loose tufts. It is found in shallower water than some other kinds, and is consequently more readily obtained with its living inhabitants.

Plumularia pennatula. A very elegant and delicate species, sparingly found on this shore; probably often overlooked from its diminutive size. Fine specimens are found growing on *Cardium aculeatum*.

Plumularia myriophyllum (Pheasant's Tail Coralline). This is one of our most beautiful Zoophytes, when in perfection; its colour is nearly amber, with something of a metallic lustre. It is not common, but we have repeatedly found it at Southport.

Plumularia frutescens (Shrubby Coralline). This species we have several times picked up on the shore; it has a considerable resemblance to small specimens of *Halecium halecinum*, but is darker coloured: the most distinguishing character is its varnished appearance. It attains the height of four inches, but with us seldom exceeds two or three; grows on shells and stones, and is but seldom found except after severe storms, or very heavy spring-tides.

Laomedea Dichotoma (Sea-thread Coralline). Growing on stems of fuci, seaweeds, and on other Zoophytes; is of very slender form, but extends a foot or more up the stalks and over the shells on which it is located. It is found in large masses, along with its numerous congeners, after strong winds or high tides.

Laomedea geniculata (Knotted Sea-thread Coralline). Much resembling the last species, but generally more upright in its growth; is found on the stems of fuci, and, under similar circumstances, with the other species.

Laomedea gelatinosa. Has much resemblance to the other two species, but is generally smaller and more diffuse in its mode of growth; found on shells and the stems of the larger seaweeds; likewise on sticks that have laid long in the water.

Campanularia volubilis (Small Climbing Coralline). A small but interesting species, frequently growing on other corallines, unoccupied crab and other shells. We have found the shell of *Corystes Cassivelaunus*, or Masked Crab, completely coated with this species.

Campanularia verticellata (Horse Tail Coralline). Occasionally thrown ashore, growing on shells; likewise on the *Tubularia indivisa*.

Alcyonium digitatum (Dead Man's Hands, or Toes; Cow's Paps). Abundant on these shores at most seasons, growing in all kinds of strange and grotesque forms (rarely two specimens alike,) on shells, stones, &c. Its usual tint is a full cream colour, at times with a faint rosy hue, and retains its general aspect when dried, only somewhat shrunken. To obtain the polypes alive it is necessary to procure it from deep water, where it is found incrusting or attached to stones and shells; we have not been able to keep it alive beyond a few days.

Actinia mesembryanthemum. From the nature of our shores it would seem a very unlikely locality for this interesting family, yet occasionally species are to be found in great

numbers, and among them this species is frequently numerous. It usually is found in little pools left by the receding tide, where the sand but slightly covers either clay or peaty soil; we have kept them alive for a considerable time, but they require a frequent change of water. It is about an inch and a half in diameter, but has the power of depressing itself almost to flatness; its colour varies considerably, from dull pale red to liver colour, streaked and blotched with green and blue—the latter colour predominates. The tentacles are commonly of a paler red than the body, interspersed with some quite blue.

Actinia alba (White Sea Anemone?). Mr. Graves has found specimens which he thinks may be this species, although it is said to be confined to the rocky coasts of Cornwall. The specimens varied from half to three fourths of an inch in diameter; the colour was dirty white, with white lines or continuous strings of white oblong spots; the tentacles were nearly colourless, with white patches, and in some instances the pelucid tentacles seemed to contain numerous rows of minute white bead-like spots. They are not so sensitive to the touch as other species, and were found from May to the end of August.

Actinia coreacea. Sometimes found in considerable numbers. It buries itself in the mud and sand, but lives for some time in clear water. Its colours are full dull red, blotched and marked with green and dark brown; the tentacles are white, olive, and red intermixed, and when expanded in broad sunshine are truly beautiful, extending considerably beyond the body on all sides, frequently measuring two inches or more in diameter. When at rest the

tentacles are all drawn inside, and the exterior surface of the animal so nearly resembles the mud and sand on which it is fixed, that it may be readily overlooked.

Actinia crassicornis. This is the largest of our native *Actinias*, often attaining four or five inches in diameter.

Actinia Bellis. A beautiful but very diminutive species, variable in its appearance and colours. We have been so fortunate as to obtain it once in this locality. Its colour is a compound of bright red, white, and ash colour, with a few yellow spots: is abundant on the Cornish coast, and probably in other places, but, as it is mostly hid from view by seaweed, it escapes general observation.

Actinia dianthus. This beautiful species is very rarely found on this coast; we have only met with two or three, and they in an injured state; they were attached to stones, much bruised, and scarcely evinced any signs of life; they were unable to retract their external fringe, except partially.

Tubulipora serpens (Small Purple Eschara). Found abundantly on the shore, growing on various zoophytes; in considerable quantities on *Plumularia falcata*, *Sertularia abietina*, and numerous other species, as well as on shells thrown ashore from deep water.

Crisia eburnea (Tufted Ivory Coralline). On seaweeds and other zoophytes, forming beautiful little tufts of a clear white colour, frequently in strong contrast with the substance on which it is parasitical.

Crisia denticulata. Is larger than the preceding, from which it is principally distinguished by its black joints, though these are not always evident.

Gemellaria loricata. An abundant species, found at all times on the shore on the receding of the tide; varies from three to eight inches or more in height, growing in dense tufts.

Cellepora pumicosa. Very common, growing on other corallines, stones, and seaweed; it forms little patches on the stems of *Plumularia falcata*, *Sertularia abietina*, and various other species, appearing like little pieces of white coral, often slightly tinged with rose colour.

Leprealia. This genus, of which there are from forty to fifty British species, is found on every shore encrusting shells, stones, zoophytes, and on almost every substance thrown ashore by the waves. Their forms are very elegant, but being in all cases microscopic, do not claim the general attention the beauty of their appearance deserves.

Cellularia scruposa (Creeping Stony Coralline). Common on shells, corallines, flustra, and the larger seaweeds. It is a small species, but is interesting for the microscope.

Cellularia reptans (Creeping Coralline). Very common on the same substances and in similar situations to the preceding.

Cellularia plumosa. A large species, often several inches in height, is much branched, and is frequently found on our shore on the recess of the tide.

Membranipora pilosa. Grows abundantly on other corallines; we have it on *Cellularia scruposa*, *Plumularia falcata*, *Sertularia abietina*, and various others.

Membranipora membranacea. Common; often investing *Flustra foliacea*.

Flustra foliacea (Broad-leaved Horn Wrack). This common species must have been noticed by all visitors to the sea shores, but has commonly been called seaweed. It is of

a pale sandy colour, differs considerably in the shape and size of its fronds, and abounds in parasites of various kinds, among which are several other species of *Flustra*. It inhabits deep water, and is but rarely obtained with living polypes, except when dredged up, attached to shells or stones.

Flustra truncata. Frequently mixed with the above species, which, in general appearance, it much resembles, but is narrower, and the tips of the fronds appear as if cut straight off. Affects the same situations as the common kind.

Flustra avicularis (Bird's-head Horn Wrack). An interesting species, furnished with numerous appendages, closely resembling the head and bill of a bird; it is commonly found growing on the *Flustra foliacea*. It requires the aid of a microscope to see the construction of its various parts, but well repays a close examination. Not abundant, but may frequently be met with on other flustra, corallines, and shells, from deep water.

Flustra membranacea. Often found coating seaweed, shells, and other zoophytes. It forms a thin crust, which, when dry, readily crumbles to powder.

Salicornaria faroiminoides (Bugle Coralline). After tempestuous weather this beautiful species is to be found in considerable abundance, mixed up in the bundles of zoophytes that are left by the retreating tide. It is one of our most elegant corallines, and seems more local than some kinds; it acquires two or three inches in height, and often occurs on oyster and scallop shells, is an inhabitant of deep water, and is at times faintly tinted with rose or purple colour.

CHAPTER XII.

There's beauty all around our paths,
If but our watchful eyes
Can trace it 'midst *familiar things*,
And through their lowly guise.

HEMANS.

FORAMINIFERA OF SOUTHPORT.

THE Foraminifera are perhaps the most prized of microscopic objects, and have deservedly attracted no small share of attention from modern naturalists.

The exquisite beauty, grace, and complication, displayed in their calcareous shells, fill the mind with wonder, when we consider the simplicity of their animal structure.

Until recently they were allied with the Ammonites, among the Cephalopoda. But the study of recent specimens under the microscope has proved the inhabitant of these lovely shells to be among the simplest of known organisms; little more in fact than an atom of vitalized gelatine, ranking with the simpler Protozoic forms.

The Foraminifera belong to the section Rhizopoda, or "root-footed," from the tendency of the animalcules to protrude from the body slender foot-like processes, by means of which they progress and absorb their food.

The species vary much in form. Indeed, Dr. Carpenter, one of the most careful observers of the group, inclines to the opinion, that all the forms are referrible to a very few original types, modified in the course of time by diversity of habitat, and other causes retarding or favouring growth.

The following list of Southport species is taken from the monograph of Professor Williamson, on the British Foraminifera.

Lagena vulgaris typica.

Lagena vulgaris var. *clavata.*

Lagena vulgaris var. *perlucida.*

Lagena vulgaris var. *striata.*

Lagena vulgaris var. *gracilis.*

Lagena vulgaris var. *substriata.*

Entosolenia globosa typica.

Entosolenia globosa var. *lineata.*

Entosolenia marginata var. *lucida.*

Entosolenia squamosa typica.

Nodosaria radricula.

Nodosaria pyrula.

Dentalina subarcuatula typica.

Cristellaria subarcuatula.

Nonionina Jeffresii.

Polystomella umbilicutula.

Planorbulina vulgaris.

Bulimina pupoides.

Polymorphina lactea typica.

Polymorphina lactea var. *oblonga.*

Polymorphina lactea var. *communis.*

Spirillina foliacea.

CHAPTER XIII.

I have cured weak stomachs by engaging the persons in the study of Botany, and particularly in the investigation of our native plants.

Dr. CULLEN.

Abundant and diversified above
All number, were the sources of delight;

* * * * *

One made acquaintanceship with plants and flowers,
And happy grew in telling all their names.

POLLOCK.

FLOWERING PLANTS OF SOUTHPORT.

No BRANCH of natural history affords more real pleasure than the study of Botany; and whether pursued as mere amusement, or for scientific purposes, it is alike valuable. The healthful exercise of collecting plants in their native localities, and the amusement afforded by the research, mentally and bodily, tend to that renovation of the physical powers for which the valetudinarian seeks the healthful shores of Southport. Though no striking or picturesque scenes are to be met with, the range of hills by which it is partially surrounded is so interspersed with valleys and marshy land, in addition to the mosses and meres more inland, that a very extensive field

for botanical pursuits is opened to the student, and no slight pleasure is to be found in accumulating the beautiful floral treasures of its neighbourhood.

A botanist rambling among the sandhills will observe numerous plants usually described as affecting chalky districts, in the southern parts of the kingdom; some that are natives of the highest hills or mountains are abundantly found here. Some plants will be found in great profusion that are of rare occurrence in other localities; others that are found in dry and chalky places are here to be met with in wet or marshy spots, so that the Flora of Southport will be found much more extensive than might have been expected from the monotonous sand by which it is surrounded. Some of those mentioned in the list can only be esteemed as outcasts from neighbouring gardens, or have been carted away with manure, and finding a congenial soil, grow spontaneously in various places. Of those kinds whose seeds are furnished with a pappus, as the Dandelion, a considerable variety are found that are not common to other parts of this kingdom, but we are not aware of any plants except mosses that are exclusively natives of this place.

Of grasses the most abundant is the Marram or Starr Grass, which luxuriates on the shore and on the hills, where it is planted, with Wheat Grass, Sand Carex, and other creeping kinds, to prevent the sand from being swept away by the winds. Agriculturally these grasses are worthless, but the cottagers cut the stems of the starr-grass for making mats, &c. An error exists with respect to the cutting of this species, and persons are liable to a fine or imprisonment for so doing; whereas mowing it is of the greatest benefit, the strength of

the plant being thus thrown into the root. In some instances, where it had been cut, the root extended from fourteen to twenty feet, and the crown of the roots had comparatively little foliage. The various dwarf willows also largely contribute to bind the sands: excepting willows, none of the trees found in the immediate neighbourhood of Southport are indigenous, and but few kinds thrive so well as when growing on other soils.

Notwithstanding such an extent of shore, there is but a very scanty supply of that beautiful tribe of plants known as seaweeds. Few are natives, but after heavy winds, particularly from the south-west, many are brought to shore, though in a broken and injured state. Of the larger and coarser sorts, which abound in the Isle of Man, immense quantities are brought here with every severe gale, but the beautiful red kinds, so abundant on the rocks and shores of Mona, are of very rare occurrence. The Sea-wrack, or *Zostera marina*, often appears in great quantities. Mosses are abundant, but as the greater number produce their fruit during the winter months, they are not likely to be sought for by convalescents. They are a numerous and beautiful family, their structure affording most interesting objects for microscopic investigation.

PLANTS OF SOUTHPORT.

Common, or Jointed Glasswort (*Salicornia herbacea*). A common species, abundant on our shores, frequently gathered and sold in the market as Samphire, for pickling. This, however, must not be confounded with the true Samphire (*Crithmum maritimum*), a plant found only on almost inaccessible rocks on the sea-coast, as alluded to by Shakspeare, in King Lear.

Mare's-tail (*Hippuris vulgaris*). In most of the ditches and water-courses in this vicinity; a peculiarly interesting plant, and an instance of the simplest form of flower known. The only British species.

Common Privet (*Ligustrum vulgare*). In hedge-rows, &c., common; found only truly wild on precipitous limestone cliffs and rocks, generally near the sea.

Thyme-leaved Speedwell (*Veronica serpyllifolia*). The name of Veronica is from that of a female saint.

Marsh Speedwell (*Veronica scutellata*). In ditches, abundant.

Water Speedwell (*Veronica Anagallis*). Common.

Brooklime (*Veronica Beccabunga*). Sometimes used as a salad.

Common Speedwell (*Veronica officinalis*). Common.

Mountain Speedwell (*Veronica montana*). Less abundant than the preceding.

Germander Speedwell (*Veronica Chamædrys*). Abundant on banks, and in fields and woods, enlivening the scenery with its splendid blue flowers; it is particularly ornamental on rockeries.

Ivy-leaved Speedwell (*Veronica hederifolia*). Common.

Green Procumbent Field Speedwell (*Veronica agrestis*). Common.

Wall Speedwell (*Veronica arvensis*). Common.

Common Butter-wort (*Pinguicula vulgaris*).

Bladder-wort (*Utricularia minor*). W.

Gipsy-wort (*Lycopus europæus*). Used by the wandering tribes to dye their skins.

Common Enchanter's Nightshade (*Circœa Lutetiana*). W.

Ash-tree (*Fraxinus excelsior*). W.

Ivy-leaved Duckweed (*Lemna trisulca*).

Greater Duckweed (*Lemna polyrrhiza*).

Lesser Duckweed (*Lemna minor*).

Prickly Twig-rush (*Cladium mariscus*). In marshy places, but rare.

Sweet Vernal Grass (*Anthoxanthum odoratum*). This is very fragrant, particularly whilst drying, and is the principal species affording the delightful fragrance to newly mown hay.

Small Marsh Valerian (*Valeriana dioica*).

Great Wild Valerian (*Valeriana officinalis*). Both species abound in wet situations; the latter is in considerable request for medical purposes.

Lambs' Lettuce, or Corn Salad (*Fedia olitoria*). Used as a salad.

Yellow Iris, or Fleur de luce (*Iris psued-acorus*). Very abundant. This was the old symbol of the Bourbons, and was first called Fleur de Louis.

Black Bog-rush (*Schaenus nigricans*). Wet places, but rare.

Beak-rush (*Rhynchospora alba*). W.

Bristle-stalked Club-rush (*Scirpus setaceus*).

Lake Club-rush, or Bull-rush (*Scirpus lacustris*). In marshes about Formby, but not abundant.

Sea Club-rush (*Scirpus maritimus*).

Wood Club-rush (*Scirpus sylvaticus*). W.

Broad-leaved Blysmus (*Blysmus compressus*). Abundant from Birkdale to Formby.

Narrow-leaved Blysmus (*Blysmus rufus*). Occasionally found on the salt marshes.

Creeping Spike-rush (*Eleocharis palustris*).

Many-stalked Spike-rush (*Eleocharis multicaulis*).

Chocolate-headed Spike-rush (*Eleocharis paniciflora*).

Scaly-stalked Spike-rush (*Eleocharis caespitosa*).

Least Spike-rush (*Eleocharis acicularis*). G.

Floating Spike-rush (*Eleocharis fluitans*).

Hare's-tail Cotton-grass (*Eriophorum vaginatum*).

Broad-leaved Cotton-grass (*Eriophorum polystachion*).

Common Cotton-grass (*Eriophorum angustifolium*). In the marshes, meres, and mosses; very common.

Mat-grass (*Nardus stricta*). On all our salt marshes.

Meadow Fox-tail Grass (*Alopecurus pratensis*). One of the most productive and valuable of our native grasses.

Slender Fox-tail Grass (*Alopecurus agrestis*).

Floating Fox-tail Grass (*Alopecurus fluitans*). Very abundant in wet places; when growing on dry ground it becomes much smaller.

Cultivated Canary Grass (*Phalaris canariensis*).

Reed Canary Grass (*Phalaris arundinacea*).

Sea-reed, Star-grass, or Bent (*Ammophila arundinacea*). Most useful in binding the sand together; frequently it extends its roots twelve or fourteen feet; it is specially protected by law.

Common Cat's-tail Grass (*Phleum pratense*).

Sea Cat's-tail Grass (*Phleum arenarium*). Both kinds abundant on the sandhills.

Purple-flowered Small-reed (*Calamagrostis lanceolata*). Moist places; common.

Whorl-grass (*Catabrosa aquatica*). Varies greatly in size; it is one of the sweetest of our native grasses.

Brown Bent-grass (*Agrostis canina*). Abundant on the salt marshes, as well as on meres and bogs.

Common Bent-grass (*Agrostis vulgaris*).

- Marsh Bent-grass (*Agrostis alba*). Both very abundant.
- Crested Hair-grass (*Koeleria cristata*). On the sandhills.
- Tufted Hair-grass (*Aira cæspitosa*). Moist places; abundant.
- Silvery Hair-grass (*Aira caryophylla*).
- Early Hair-grass (*Aira præcox*). Both species very common on the sandhills.
- Wood Melic (*Melica uniflora*). W.
- Purple Melic-grass (*Mollinia cærulea*). Used in some parts for making besoms; common on the sides of water courses.
- Creeping Soft-grass (*Holcus mollis*). Easily distinguished from the following by the tufts of hair on the knots of the stalks.
- Meadow soft-grass (*Holcus lanatus*). Both kinds common.
- Oat-like Grass (*Arrhenatherum avenaceum*). Plentiful.
- Water Meadow-grass (*Poa aquatica*). Scarce in this vicinity, but abundant in the south and east of England; found on the banks of ditches and ponds, forming the principal crop of grass in the fenny countries.
- Floating Meadow-grass (*Poa fluitans*). Is much relished by cattle, and is abundant, but from the situations it affects is of little account with the agriculturist.
- Creeping Sea Meadow-grass (*Poa maritima*). Common in salt marshes.
- Reflexed Meadow-grass (*Poa distans*).
- Procumbent Meadow-grass (*Poa procumbens*). Common from Formby Point to Crossens, in parts only occasionally overflowed by the sea.
- Hard Meadow-Grass (*Poa rigida*). Common on walls and dry uncultivated places.
- Dwarf Wheat Meadow-grass (*Poa loliacea*).

- Rough-stalked Meadow-grass (*Poa trivialis*).
- Smooth-stalked Meadow-grass (*Poa pratensis*). These two, with *Alopecurus pratensis*, constitute the bulk of our grass crops, and are to be found in all good meadows. For green pasturage they are invaluable to the cultivator.
- Annual Meadow-grass (*Poa annua*). Abundant everywhere.
- Decumbent Heath-grass (*Triodia decumbens*).
- Quaking-grass (*Briza media*). Very abundant.
- Rough Cock's-foot Grass (*Dactylis glomerata*).
- Crested Dog's-tail Grass (*Cynosurus cristata*). A valuable pasturage grass, of common occurrence.
- Sheep's Fescue-grass (*Festuca ovina*). Occasionally on the sandhills, both in its common and oviparous states.
- Hard Fescue-grass (*Festuca duriuscula*). Abundant near the sea.
- Creeping Fescue-grass (*Festuca rubra*).
- Barren Fescue-grass (*Festuca bromoides*). Not common.
- Wall Fescue-grass (*Festuca Myurus*). G.
- Single-glumed Fescue-grass (*Festuca uniglumis*). Common on the sandhills from Birkdale to Formby.
- Meadow Fescue-grass (*Festuca pratensis*). A valuable grass; common. It is esteemed equal to the *Poas* before-named.
- Barren Brome-grass (*Bromus sterilis*). Very common in hedge rows.
- Hairy Wood Brome-grass (*Bromus asper*). W.
- Smooth Rye Brome-grass (*Bromus secalinus*). Sometimes met with, but not common.
- Soft Brome-grass (*Bromus mollis*). Most abundant.
- Smooth Brome-grass (*Bromus racemosus*). Fields; common.
- Yellow Oat-grass (*Avena flavescens*). In fields and sandhills.

Wild Oat (*Avena fatua*). W.

Bristle-pointed Oat-grass (*Avena strigosa*). W.

Reed (*Phragmites communis*). In great demand for economical purposes, such as garden screens, thatching, brick-making, &c. The leaves are employed by the poor for mat making, and the flowers afford a *nidus* for a considerable variety of insects, particularly the smaller kinds of moths; it is naturally an aquatic, but grows abundantly in corn-fields in the neighbourhood, where in deep draining the roots have been spread over the land.

Upright Sea Lyme-grass (*Elymus arenarius*). G.

Used like the starr-grass to bind the sands.

Wall Barley-grass (*Hordeum murinum*). A.

Meadow Barley-grass (*Hordeum pratense*).

Creeping Wheat-grass, Couch-grass, or Twitch (*Triticum repens*).

Rushy Sea Wheat-grass (*Triticum junceum*). Most abundant along the coast, even within tide-mark.

False Brome-grass (*Brachypodium sylvaticum*).

Perennial Darnel, or Rye-grass (*Lolium perenne*).

Sea Hard-grass (*Lepturus incurvatus*). Sparingly on the shores above high-water mark.

Water-blinks, or Chickweed (*Montia fontana*). Wet and boggy places; common.

Wood Teazel (*Dipsacus sylvestris*). A.

Field Knautia (*Knautia arvensis*).

Devil's-bit Scabious (*Scabiosa succisa*).

Small Scabious (*Scabiosa Columbaria*). Less abundant than the last species, but not rare.

Yellow Bed-straw (*Galium verum*). Very common.

White Water Bed-straw (*Galium palustre*). Plentiful in wet situations.

Rough Marsh Bed-straw (*Galium uliginosum*).

Cross-wort (*Galium cruciatum*). W.

Smooth Heath Bed-straw (*Galium saxatile*).

Great Hedge Bed-straw (*Galium mollugo*).

Goose-grass, or Cleavers (*Galium Aparine*). Formerly several of these species were in general use for stuffing beds, cushions, &c., from whence they derive their English name. The root of the Yellow Bed-straw was much used in dyeing, and affords a finer red than madder. The seeds of Goose-grass have been used instead of coffee.

Wood-ruff (*Asperula odorata*).

Blue Sherardia, or Field Madder (*Sherardia arvensis*). Common on the roads and waysides.

Greater Plantain (*Plantago major*). A great favourite with small birds; common everywhere.

Ribwort Plantain (*Plantago lanceolata*). Abundant.

Sea-side (*Plantago maritima*).

Buck's-horn Plantain (*Plantago coronopus*).

The two last species very abundant on the coast and far inland.

Mouse-tail (*Centunculus minimus*).

Allseed (*Radiola millegrana*).

Pellitory of the Wall (*Parietaria officinalis*). Churchtown; not uncommon on old walls.

Field Ladies' Mantle (*Alochemilla arvensis*). Very common.

Great Burnet (*Sanguisorba officinalis*). Very abundant in moist meadows, between Churchtown and Crossens.

Fennel-leaved Pondweed (*Potamogeton pectinatus*).

Small Pondweed (*Potamogeton pusillus*).

Grass-leaved Pondweed (*Potamogeton gramineus*).

Curled Pondweed (*Potamogeton crispus*).

Perfoliate Pondweed (*Potamogeton perfoliatus*).

Shining Pondweed (*Potamogeton lucens*)?

Reddish Pondweed (*Potamogeton rufescens*).

Sharp-pointed Broad-leaved Pondweed (*Potamogeton natans*).

Oblong-leaved Pondweed (*Potamogeton compressum*). Is a variety of *Potamogeton pusillus*?

All the Pondweeds are abundant wherever they gain a footing, and speedily choke up slow streams or ponds. Their leaves are beautifully reticulated, and afford a *nidus* and food to a great variety of insects and snails.

Sea Ruppia (*Ruppia maritima*). Common in many of the salt water courses.

Procumbent Pearlwort (*Sagina procumbens*).

Annual Small-flowered Pearlwort (*Sagina apetala*).

Sea Pearlwort (*Sagina maritima*). Common on the coast.

Viper's Bugloss (*Echium vulgare*). Abundant at Birkdale, and all along the coast to Formby.

Gromwell (*Lithospermum officinale*). In fields near Ainsdale station.

Bastard Alkanet, or Corn Gromwell (*Lithospermum arvense*). About Ainsdale.

Borage (*Borago officinalis*). Scarcely a native, but has become common from being the outcast of gardens.

Small Bugloss (*Lycopsis arvensis*).

Forget-me-not (*Myosotis palustris*).

Tufted Water Scorpion-grass (*Myosotis caespitosa*).

Field Scorpion-grass (*Myosotis arvensis*).

Early Scorpion-grass (*Myosotis collina*).

Yellow and Blue Scorpion-grass (*Myosotis versicolor*). Common on waste places, walls, and in many parts of the sandhills.

Hound's tongue (*Cynoglossum officinale*). Plentiful.

Scarlet Pimpernel (*Anagallis arvensis*). Sometimes found with white or blue flowers.

Bog Pimpernel (*Anagallis tenella*). A very delicate plant.

Great Yellow Loosestrife (*Lysimachia vulgaris*). Formerly common, but from the draining of the land not now often found.

Wood Loosestrife, or Yellow Pimpernel (*Lysimachia nemorum*). In woods, and moist shady places, common.

Moneywort, or Herb Twopence (*Lysimachia Nummularia*).

Primrose (*Primula vulgaris*). Very common; in the neighbourhood is found a variety of the common primrose on a stalk, like the oxlip or cowslip, particularly about the Rectory, also with purple flowers.

Oxlip (*Primula elatior*)? In damp meadows.

Cowslip, or Paigle (*Primula veris*).

And I serve the fairy queen
To dew her orbs upon the green;
The COWSLIPs small her pensioners be;
In their gold coats spots you see;
Those be freckles, fairy favours,
In those freckles live their savours;
I must go seek some dew-drops here
And hang a pearl on every Cowslip's ear.

SHAKESPEARE.

Water Violet (*Hottonia palustris*). This is one of the most beautiful of our aquatic plants, and is well adapted for aquaria; grows abundantly in most of the water-courses and ditches round Southport.

Buckbean, or Marsh Trefoil (*Menyanthes trifoliata*).

Oft where the stream meandering glides,
Our beauteous **MENYANTHES** hides
Her clustering, fringed flowers;
Nor, 'mid the garden's sheltering care,
Or famed exotics, rich and rare,
Purple or roseate, brown or fair,
A plant more lovely towers.

The Buckbean, both in form and colour, rivals many foreign plants cultivated in this country at great expense and trouble. It keeps in bloom for some weeks. The easiest mode of culture is to obtain roots early in the year, and plant them in a garden pot, which for the *Hottonia* should be submerged; for the *Menyanthes*, keeping the pot constantly standing in water, will answer very well. Found abundantly in wet places round Southport.

Common Centaury (*Erythræa centaurium*).**Dwarf-branched Centaury (*Erythræa pulchella*).****Dwarf-tufted Centaury (*Erythræa linarifolia*).****Broad-leaved tufted Centaury (*Erythræa latifolia*)**

All the species are common on the shores, salt marshes, and among the sandhills; the first and last species vary greatly in size, being often only an inch in height and frequently attaining 10 or 12 inches and more; the other two species are very dwarf, rarely exceeding two or three inches. The whole are beautiful, varying from a full rose colour to pure white; they are intensely bitter, from which circumstance they acquired the name of Gall of the Earth.

Thorn Apple (*Datura Stramonium*). In waste places; but a doubtful native.

Henbane (*Hyoscyamus niger*). Probably an outcast from gardens.

Woody Nightshade, or Bitter-sweet (*Solanum Dulcamara*).

Common by the sides of ditches.

Garden Nightshade (*Solanum nigrum*). In waste grounds.

Great Mullein (*Verbascum Thapsus*). A.

Small Bindweed (*Convolvulus arvensis*).

Woody Bindweed (*Calystegia Sepium*). Common, though less so than the preceding.

Sea Calystegia, or Bindweed (*Calystegia Soldanella*). This beautiful species is abundant on the sandhills skirting the shore.

Brookweed (*Samolus Valerandi*). Common in all the marshy places among the hills.

Annual Sheep's Scabious (*Jasione montana*). On dry sandy places remote from the sea; particularly abundant on the moss about Halsall.

Round-leaved Bell-flower, or Hare-bell (*Campanula rotundifolia*). On the sands, often with pure white flowers. This is unquestionably the plant to which the poet refers—

E'en the light HAREBELL raised its head,
Elastic from her airy tread;—

and not the *Hyacinthus non scriptus*.

Giant Bell-flower, or Throatwort (*Campanula latifolia*). W.

Ivy-leaved Bell-flower (*Campanula hederifolia*). A.

Honeysuckle, or Woodbine (*Lonicera Periclymenum*). Common in hedges and copses.

Hairy Violet (*Viola hirta*). Found sparingly among the sandhills.

Sweet Violet (*Viola odorata*). W.

Marsh Violet (*Viola palustris*). Very common in moist boggy ground all round Southport.

Dog's, or Scentless Violet (*Viola canina*).

Dwarf Yellow-spurred Violet (*Viola flavicornis*).

Pansy Violet, or Heart's-ease (*Viola tricolor*).

Yet mark'd I where the bolt of Cupid fell;
It fell upon a little western flower—
Before milk-white; now purple with love's wound—
And maidens call it LOVE-IN-IDLENESS.
Fetch me that flower; the herb I showed thee once;
The juice of it on sleeping eyelids laid,
Will make a man or woman madly doat
Upon the next live creature that it sees.

SHAKESPEARE.

Yellow Pansy (*Viola lutea*).

Common Gooseberry (*Ribes grossularia*). In hedgerows, but can scarcely be considered wild.

Common Ivy (*Hedera helix*). Abundant.

And can those flowers, that bloom to fade,
For thee a fitting wreath appear?
No! wear thou, then, the Ivy-braid,
Whose leaves are never sere.
It is not gloomy; brightly play
The sunbeams on its glossy green;
And softly on it sleeps the ray
Of moonlight, all serene.

It changes not, as seasons flow
In changeful, silent course along;
Spring finds it verdant, leaves it so;
It outlives summer's song;
Autumn no warm or russet stain
Upon its fadeless glory flings;
And winter o'er it sweeps in vain,
With tempest on his wings!

BERNARD BARTON.

Sea Milkwort, or Black Saltwort (*Glaux maritima*). Most abundant in all the salt marshes.

Marsh Gentian (*Gentiana Pneumonanthe*). A.

Autumnal Gentian (*Gentiana Amarella*).

Field Gentian (*Gentiana campestris*).

Both species very abundant about the sandhills.

Wild Celery (*Apium graveolens*). A.

Wild Carrot (*Daucus carota*).

Upright Hedge Parsley (*Torilis Anthriscus*). Common in waste places.

Spreading Hedge Parsley (*Torilis infesta*).

Knotted Hedge Parsley (*Torilis nodosa*).

Cow Parsnip, or Hogweed (*Heraclium Spondylium*).

Common Wild Parsnip (*Pastinaca sativa*).

Hemlock (*Conium maculatum*).

Garden Angelica (*Angelica Archangelica*). Sparingly on the moss, near Halsall, far away from any house or garden. G.

Wild Angelica (*Angelica sylvestris*). By the sides of water-courses, common.

Meadow Pepper Saxifrage (*Silene pratensis*).

Fool's Parsley (*Ethusa Cynapium*). A very poisonous plant; not abundant.

Water Dropwort (*Enanthe fistulosa*). Abundant in ditches and places occasionally overflowed.

Callous-fruited Water Dropwort (*Enanthe pimpinelloides*). W.

Hemlock Water Dropwort (*Enanthe crocata*). W.

Broad-leaved Water Dropwort (*Sium latifolium*)?

Procumbent Water Dropwort (*Sium nodiflorum*).

Narrow-leaved Water Dropwort (*Sium angustifolium*).

Least Water Dropwort (*Sium inundatum*).

All the Dropworts are aquatics, and some kinds are very abundant in ditches, so much so that many of the watercourses are quite choked with them; the broad and narrow-leaved are poisonous, and all the others are to be suspected.

Earth-nut (*Bunium flexuosum*). The tuberous root is eaten by children, and is greedily devoured by pigs.

Burnet Saxifrage (*Pimpinella Saxifragia*).

Gout-weed, or Herb Gerarde (*Ægopodium Podagraria*). In damp situations; not uncommon.

Rough Chervil (*Chærophyllum temulentum*). Very abundant.

Wild Beaked Parsley (*Anthriscus sylvestris*). In banks and hedges; very common.

Common Beaked Parsley (*Anthriscus vulgaris*).

Shepherd's Needle, or Venus's Comb (*Scandix pecten*). In cornfields and cultivated ground; abundant.

Common Alexanders (*Smyrniolum Olusatrum*)?

Sea Holly, or Sea Eringo (*Eryngium maritimum*). Very abundant on the shore, and among the sandhills bordering, frequently attaining a large size; the root is sometimes bleached and forms a substitute for asparagus, and has been long used, when candied, as a sweetmeat.

White Rot, or Marsh Pennywort (*Hydrocotyle vulgaris*).

Annual Sea-side Goosefoot (*Suaeda maritima*).

Many-seeded Goosefoot (*Chenopodium polyspermum*).

Ditto do. var. A. and B.

Good King Henry, or Mercury Goosefoot (*Chenopodium Bonus Henrius*).

Red Goosefoot (*Chenopodium rubrum*)?

Oak-leaved Goosefoot (*Chenopodium glaucum*)?

Many of the species are abundant in banks, hedges, &c., along the shores; those with large leaves are frequently used as potherbs, and as substitutes for spinach.

Prickly Saltwort (*Salsola Kali*). Abundant on the shore.

Common Elder (*Sambucus nigra*). In hedge rows.

Grass of Parnassus (*Parnassia palustris*).

Parnassian grass, with chalice bloom,
And globes nectareous, like the earl's
Rich coronet, beset with pearls.

A very beautiful and highly interesting plant, most abundant in this neighbourhood, though not generally dispersed through the kingdom, and in many places quite unknown; the nectaries at the base of the petals are very beautiful microscopic objects.

Thrift, or Sea Gilliflower (*Armeria maritima*). With white and red flowers; abundant.

Spreading Spiked Sea-Pink (*Statice Limonium*). W.

Remote-flowered Sea-Pink (*Statice rariflora*).

Purging Flax (*Linum catharticum*). Very common.

Round-leaved Sun-dew (*Drosera rotundifolia*).

Spathulate-leaved Sun-dew (*Drosera longifolia*). On the mosses and about the meres.

Great Sun-dew (*Drosera Anglica*). W.

Water Purslane (*Peplis Portula*). Common in places occasionally overflowed.

Wild Hyacinth, or Blue-bell (*Agrophis nutans*). In woods and shady places; common.

Broad-leaved Garlic (*Allium ursinum*). W.

Star of Bethlehem (*Ornithogalum umbellatum*). A.

Lancashire Bog Asphodel (*Narthecium ossifragum*).

Hard Rush (*Juncus glaucus*).

Soft Rush (*Juncus effusus*).

Common Rush (*Juncus conglomeratus*).

Lesser Sharp Sea-Rush (*Juncus maritimus*).

Sharp-flowered Jointed Rush (*Juncus acutiflorus*).

Shining-fruited Jointed Rush (*Juncus lampocarpus*).

Lesser Bog Jointed Rush (*Juncus uliginosus*).

Toad Rush (*Juncus bufoneus*).

Round-fruited Rush (*Juncus compressus*). Var. *canosus*. W.

Heath Rush (*Juncum squarrosus*). The rushes are found in boggy places, some in salt marshes, and abound in all the mosses and meres.

Great Hairy Wood Rush (*Luzula sylvatica*).

Broad-leaved Hairy Wood Rush (*Luzula pilosa*).

Field Wood Rush (*Luzula campestris*). The Wood Rushes are very common on the sandhills; they do not affect situations so near the sea as the true Rushes.

Great Water Dock (*Rumex Hydrolapathum*).

Curled Dock (*Rumex crispus*).

Bloody-veined Dock (*Rumex sanguineus*).

Sharp Dock (*Rumex acutus*).

Broad-leaved Dock (*Rumex obtusifolius*).

Golden Dock (*Rumex maritimus*).

Common Sorrel (*Rumex acetosa*).

Sheep's Sorrel (*Rumex acetosella*).

Both kinds of Sorrel are common, and are frequently used as salad.

Marsh Arrow-grass (*Triglochin palustre*).

Sea-side Arrow-grass (*Triglochin maritimum*).

Both kinds very common.

Greater Water Plantain (*Alisma Plantago*). Abundant in ponds and ditches.

Lesser Water Plantain (*Alisma ranunculoides*). Common in stagnant water.

Creeping Lesser Water Plantain. Var. B.

Common Maple (*Acer campestre*). W.

Not indigenous.

Perfoliate Yellow-wort (*Chlora perfoliata*). Very abundant.

An excellent bitter.

Cross-leaved Heath (*Erica tetralix*).

Fine-leaved heath (*Erica cineria*).

Common Ling, or Heather (*Calluna vulgaris*).

These three plants abound in all the mosses and meres.

Bilberry, or Wortleberry (*Vaccinium myrtillus*).

Marsh Wortleberry, or Cranberry (*Vaccinium oxycoccus*).

Evening Primrose (*Oenothera biennis*). Grows all round Southport, particularly at Birkdale, but not indigenous.

Hairy Willow-herb, or Codlings and Cream (*Epilobium hirsutum*). In most ditches and watercourses.

Small-flowered Willow-herb (*Epilobium parviflorum*).

Broad Smooth-leaved Willow-herb (*Epilobium montanum*).

Square-stalked Willow-herb (*Epilobium tetragonum*).

Narrow-leaved Marsh Willow-herb (*Epilobium palustre*).

Knot-grass (*Polygonum aviculare*).

Robert's Knot-grass (*Polygonum Roberti*).

"This, which we have long been acquainted with, grows abundantly on both sides of the Mersey, sometimes extending three or four feet in length."—G.

Buckwheat (*Polygonum Fagopyrum*). The seed affords excellent food for poultry; it was probably originally introduced for agricultural purposes.

Climbing Buckwheat (*Polygonum Convolvulus*). The seeds are smaller than the last, and are much sought after by small birds.

Amphibious Persicaria (*Polygonum amphibium*).

Ditto ditto Var. A. and B.

All common on the sides of ponds, or floating on the surface.

Spotted Persicaria (*Polygonum Persicaria*).

Pale-flowered Persicaria (*Polygonum Lapathifolium*).

Small Creeping Persicaria (*Polygonum minus*). Common on footpaths by the sides of watery places.

Biting Persicaria (*Polygonum Hydropiper*). Very common in wet situations, and may be readily known by its pendant spikes of flowers.

Tuberous Moschatel (*Adoxa moschatellina*). In banks and shady places abundant, diffusing a pleasant musky odour.

Flowering Rush, or Water Gladiole (*Butomus umbellatus*).

This is one of the most showy of our native aquatics, and well deserves a place in all artificial waters.

Yellow Bird's-nest (*Monotropa Hypopithys*). Abundant in marshy grounds, interspersed with dwarf willows.

Round-leaved Winter-green (*Pyrola rotundifolia*). This, and the *Pyrola maritima* are met with in considerable abundance in the low marshy places among the sandhills from Birkdale to Formby, likewise at Lytham; it is a very local plant, and probably in no part of this kingdom is so abundant as in the places above named. It is so beautiful

that it merits a place in every garden ; it is of easy cultivation, growing in almost sheer sand with a little peat earth, and must be kept constantly moist.

Sea Winter-green (*Pyrola maritima*).

Knowel (*Scleranthus annuus*). A.

Opposite-leaved Golden Saxifrage (*Chrysosplenium oppositifolium*). Frequent in watery places.

Common Soap-wort (*Saponaria officinalis*). On banks, foot-paths, and roadsides round Southport ; a double variety is cultivated in gardens.

Bladder Campion (*Silene inflata*). Common on the shore.

Sea-Campion, or Catch-fly (*Silene maritima*). This much resembles the last species, has larger flowers and smaller leaves, though frequently can scarcely be extinguished.

English Catch-fly (*Silene Anglica*). In fields near the Ainsdale Station.

Night-flowering Catch-fly (*Silene noctiflora*). In borders of fields and by the sides of the Railway from Birkdale to Crosby.

Unlike SILENE, who declines
The garish noontide's blazing light;
But when the evening crescent shines,
Gives all her sweetness to the night.

Wood Stitchwort (*Stellaria nemorum*).

Common Chickweed, or Stitch-wort (*Stellaria media*).

Greater Stitch-wort (*Stellaria holostea*).

Lesser Stitch-wort (*Stellaria graminea*).

Glaucous Marsh Stitch-wort (*Stellaria glauca*).

Bog Stitch-wort (*Stellaria uliginosa*).

Water Mouse-eared Chickweed (*Malachium aquaticum*).

AA

Sea-side Sand-wort (*Honckenga peploides*).

Three-nerved Sand-wort (*Arenaria trinervis*). Moist shady places, not uncommon.

Thyme-leaved Sand-wort (*Arenaria Serpyllifolia*). Dry places, frequent.

Purple Sand-wort (*Arenaria rubra*).

Sea Spurry Sand-wort (*Arenaria spargularia*). With the last species common on the sea-shore.

Marsh Andromeda (*Andromeda polifolia*). W.

Wall Penny-wort (*Cotyledon umbilicus*). Found sparingly about Scarisbrick and its vicinity.

Biting Stone-crop, or Wall Pepper (*Sedum acre*). Abundant on the sandhills.

English Stone-crop (*Sedum Anglicum*). A.

Wood Sorrell (*Oxalis acetosella*). In woods and shady places.

Corn Cockle (*Agrostemma Githago*).

Ragged Robin, or Cuckoo-flower (*Lychnis fls-cuculi*).

Red and White Campion (*Lychnis dioica*).

Red and White Campion. Var., B. Both varieties are abundant in banks and cornfields.

Broad-leaved Mouse-ear Chickweed (*Cerastium vulgatum*).

Narrow-leaved Mouse-ear Chickweed (*Cerastium viscosum*). G.

Little Mouse-ear Chickweed (*Cerastium semi-decandrum*).

Four-cleft Mouse-ear Chickweed (*Cerastium tetrandrum*).

These species are abundant in waste places, sides of fields, and on the sandhills.

Sea-side Sandwort-spurry (*Spergularia marina*).

Corn Spurry (*Spergularia arvensis*).

Knotted Spurry (*Spergularia nodosa*). Common like the last, but affecting moister situations.

Purple Loosestrife (*Lythrum salicaria*). In moist ditches and fields round Southport.

Common Agrimony (*Agrimonia Eupatoria*). Occasionally among the sandhills.

Dyer's Rocket, or Yellow-weed (*Roseda luteola*).

Shrubby-base Rocket (*Roseda fruticulosa*).

White Rocket (*Roseda alba*). This grows with the last species on the Southport shore, but has either been sown or is the outcast of gardens.

Common House-leek (*Sempervivum tectorum*). This species was formerly held in high estimation in rural pharmacy. The expressed juice of the leaves, mixed with milk, is often applied in cutaneous eruptions.

Wild Bullace (*Prunus communis*). Occasionally in hedges.

Blackthorn, or Sloe (*Prunus spinosa*). Hedges, frequent.

Hawthorn, Whitethorn, or May (*Crataegus Oxyacantha*). Abundant, sometimes with pink flowers.

Crab Apple (*Pyrus Malus*).

Mountain Ash, or Rowan (*Pyrus aucuparia*). W.

Meadow-sweet (*Spiraea ulmaria*). In moist places.

Burnet-leaved Rose (*Rosa spinosissima*). Common on many of the sandhills.

Dog Rose (*Rosa canina*).

Ditto. Var., A., B., C., & D. Common in hedges, and borders of woods.

Downy-leaved Rose (*Rosa tomentosa*). A.

Raspberry (*Rubus idaeus*). Found occasionally in waste places.

Common Bramble or Blackberry (*Rubus fruticosus*). Very common.

The primrose to the grave is gone;
 The hawthorn flower is dead;
 The violet by the moss'd grey stone
 Hath laid her weary head;
 But thou, WILD BRAMBLE! back dost bring
 In all their beauteous power,
 The fresh green days of life's fair spring,
 And boyhood's blossomy hour.
 Scorn'd Bramble of the Brake! once more
 Thou bidst me be a boy,
 To gad with thee the woodlands o'er,
 In freedom and in joy.

ELLIOT.

Hazel-leaved Bramble (*Rubus corylifolius*).

Dewberry (*Rubus casius*). This species may be readily known from the foregoing by its constantly trailing on the ground; the fruit is larger, of a deep blue colour, and though large has fewer grains or seeds composing the berry.

Red-fruited Bramble (*Rubus suberectus*). W.

Hornbeam-leaved Bramble (*Rubus carpinifolius*). W.

Buckthorn-leaved Bramble (*Rubus rhamnifolius*). W.

Large-leaved Bramble (*Rubus macrophyllus*). W.

Koehler's Bramble (*Rubus Koehleri*). W.

Wild Strawberry (*Fragaria vesca*). Occasionally among the sandhills, and abundantly on uncultivated ground between Birkdale and Ainsdale.

Purple Marsh Cinque-foil (*Comarum palustre*). On boggy and marshy ground, abundant.

Silver-weed (*Potentilla anserina*).

Hoary Cinque-foil (*Potentilla argentea*).

Creeping Cinque-foil (*Potentilla reptans*).

Strawberry-leaved Cinque-foil (*Potentilla fragariastrum*). All the species are very common on banks in uncultivated places and meadows.

Common Tormentil (*Potentilla officinalis*).

Trailing Tormentil (*Potentilla Tormentilla*). Both kinds very common.

Common Avens, or Herb Bennet (*Geum urbanum*). In woody or shady places, not abundant.

Long Prickly-headed Poppy (*Papaver Argemone*). Fields and waysides, common.

Common Red Poppy (*Papaver rhæas*). Very common.

Long smooth-headed Poppy (*Papaver dubium*). Common.

Yellow Horned Poppy (*Glaucium luteum*). Sparingly along the shore to Formby.

Common Celandine (*Chelidonium majus*).

Common Celandine. Var., B.

Both kinds by road sides, in various places.

White Water Lily (*Nymphaea alba*). Common in many of the pits and water-courses round Southport.

Yellow Water Lily (*Nuphar lutea*). Abundant in most of the ditches and water-courses, intermixed with the preceding.

Greater Meadow-rue (*Thalictrum majus*). Rare; in ponds about Scarisbrick.

Common Meadow-rue (*Thalictrum flavum*). Plentiful near Martin Mere.

Wood Anemone (*Anemone nemorosa*). Common in woods and shady places.

Water Crowfoot (*Ranunculus aquatilis*). Common in all the ponds and pools round Southport.

Water Crowfoot. Var., B. and C.

Ivy-leaved Crowfoot (*Ranunculus hederaceus*). In moist places subject to occasional inundation.

Great Spearwort (*Ranunculus lingua*). This, the most showy of the British Ranunculi, is found in considerable abundance in ditches round Birkdale.

Lesser Spearwort (*Ranunculus flammula*). Very common in wet places where water stagnates.

Pilewort Crowfoot, or Lesser Celandine (*Ranunculus Ficaria*).

Celery-leaved Crowfoot (*Ranunculus sceleratus*).

Upright Meadow Crowfoot (*Ranunculus acris*).

Creeping Crowfoot (*Ranunculus repens*).

Bulbous Crowfoot (*Ranunculus bulbosus*).

Pale Hairy Crowfoot (*Ranunculus hirsutus*).

Small Flowered Crowfoot (*Ranunculus parviflorus*). W.

The above species are found abundantly in fields and meadows, and are known by the popular name of Buttercups. All the kinds are acrid and highly poisonous, frequently blistering the mouths of cattle that inadvertently feed upon them.

Marsh Marigold (*Caltha palustris*).

Marsh Marigold. Var., B.

Both kinds are abundantly met with in most wet meadows and by the sides of ditches.

Hairy Mint (*Mentha aquatica*).

Tall Red Mint (*Mentha sativa*). G.

Bushy Red Mint (*Mentha arvensis*). G.

All the kinds are common in moist places.

- Wild Thyme (*Thymus serpyllum*). Common in dry spots.
Wood Germander, or Sage (*Teucrium scorodonia*).
Common Bugle (*Ajuga reptans*). Abundant, and frequently with white flowers.
Black Horehound (*Ballota nigra*).
Mother-wort (*Leonurus Cardiaea*). A.
White Horehound (*Marrubium vulgare*).
Yellow Weazel-snout, or Archangel (*Galeobdolon luteum*). In waste places about Scarisbrick.
Common Hemp Nettle (*Galeopsis Tetrahit*). In fields, varying in colour like the preceding.
Large-flowered Hemp-nettle (*Galeopsis versicolor*). A.
White Dead Nettle (*Lamium album*).
Purple Dead Nettle (*Lamium purpureum*).
Henbit Dead Nettle (*Lamium amplexicaule*).
Wood Betony (*Betonica officinalis*). W.
Hedge Wound-wort (*Stachys sylvatica*).
Marsh Wound-wort (*Stachys palustris*). Common in moist and shady places.
Corn Wound-wort (*Stachys arvensis*). W.
Ground Ivy (*Nepeta Glecoma*). Abundant.
Wild Basil (*Calamintha Clinopodium*).
Self-heal (*Prunella vulgaris*).
Self-heal, white flowered var.
Both kinds common round Southport.
Common Skull-cap (*Scutellaria galericulata*). On the mosses.
Yellow Viscid Bartsia (*Bartsia viscosa*).
Common Bartsia (*Bartsia odontitis*).
Eye-bright (*Euphrasia officinalis*).
Common Rattle (*Rhinanthus crista-galli*).

Marsh Louse-wort, or Tall Red Rattle (*Pedicularis palustris*).

Pasture Louse-wort, or Dwarf Red Rattle (*Pedicularis sylvatica*). Abundant in marshy places.

Yellow Toad-flax (*Linaria vulgaris*). Banks and hedges.

Knotted Fig-wort (*Scrophularia nodosa*). W.

Water Fig-wort, or Water Betony (*Scrophularia aquatica*).

Purple Foxglove (*Digitalis purpurea*). Abundant.

Purple Sea Rocket (*Cakile maritima*). On the shore.

Lesser Wart Cress (*Senecio coronopus*). Occasionally in dry places, by roadsides. G.

Shepherd's Purse (*Capsella bursa-pastoris*).

Naked-stalked Teesdalia (*Teesdalia nudicaulis*). Very abundant in sandy places round Birkdale.

Mithridate Pepper-wort (*Lepidium campestre*).

Smooth Pepper-wort (*Lepidium Smythii*). Occasionally found in corn fields.

Common Scurvy-Grass (*Cochlearia officinalis*). G.

English Scurvy-Grass (*Cochlearia Anglica*).

Danish Scurvy-Grass (*Cochlearia Danica*).

All the kinds common on the shore and salt marshes.

Water Radish (*Armoracia amphibia*).

Horse Radish (*Armoracia rusticana*). Found occasionally, but probably the outcast of gardens.

Common Whitlow-grass (*Draba verna*). Very common.

Bitter Lady's-Smock (*Cardamine amara*). Common in wet places

Meadow Lady's-Smock, or Cuckoo-flower (*Cardamine pratensis*)

Very abundant; sometimes with purple flowers.

When daisies pied, and violets blue,

And LADY-SMOCKS all silver white,

And cuckoo-buds of yellow hue,

Do paint the meadows with delight.

SHAKESPEARE.

- Hairy Lady's-Smock (*Cardamine hirsuta*).
Hairy Tower-Mustard (*Arabis hirsuta*). Not common.
Bitter Winter-Cress, or Yellow Rocket (*Barbarea vulgaris*).
Water-Cress (*Nasturtium officinale*). Very abundant.
Creeping Nasturtium (*Nasturtium sylvestre*). Sides of ditches,
and places subject to inundation. G.
Marsh Nasturtium (*Nasturtium terrestre*). In similar places
to the last species.
Hedge-Mustard (*Sisymbrium officinale*). Abundant.
Fine-leaved Hedge-Mustard, or Flaxweed (*Sisymbrium Sophia*)
Common Thale-Cress (*Sisymbrium Thalianum*).
Garlic Treacle Mustard, Jack by the Hedge, or Sauce Alone
(*Alliaria officinalis*). Very common.
Common Turnip (*Brassica Rapa*).
Wild Mustard, or Charlock (*Sinapis arvensis*).
White Mustard (*Sinapis alba*). G.
Common Mustard (*Sinapis nigra*).
Wild Radish, or Jointed Charlock (*Raphanus Raphanistrum*).
Hemlock Stork's-bill (*Erodium cicutarium*).
Hemlock, with white flowers.
Both varieties very abundant.
Bloody Crane's-bill (*Geranium sanguineum*). Occasionally
among the sandhills.
Strong-Scented Crane's-bill, or Herb Robert (*Geranium roberti-*
anum).
Strong-scented Crane's-bill, or Herb Robert, white variety.
Dove's-foot Crane's-bill (*Geranium molle*).
Jagged-leaved Crane's-bill (*Geranium dissectum*).
Long-stalked Crane's-bill (*Geranium columbinum*).
Common Mallow (*Malva sylvestris*).

Dwarf Mallow (*Malva rotundifolia*).

Musk Mallow (*Malva moschata*).

Musk Mallow, white variety.

Both varieties common on banks and hedge-rows, about Crossens.

White Climbing Corydalis (*Corydalis claviculata*).

Ramping Fumitory (*Fumaria capriolata*).

Common Fumitory (*Fumaria officinalis*).

Common Fumitory. Var. A. and B.

All the varieties are common in waste and barren spots.

Common Milk-wort (*Polygala vulgaris*).

Common Milk-wort, with purple, pink, and white varieties.

Furze, Whin, or Gorse (*Ulex europæus*).

Fringing the fence or shady wold,
With blaze of vegetable gold,
The FURZE.

The name of Furze is derived from the Anglo-Saxon name of the plant: Whin is derived from the Welsh, and Gorse from the Anglo-Saxon word signifying angry or irascible, on account of its painful prickliness.

Dwarf Furze (*Ulex Nanus*). Abundant on the mosses about Halsall.

Hairy Green-weed (*Genista Anglica*). Common on the sides of water-courses about Martin Mere, Crossens, and Banks.

Common Broom (*Sarothamnus scoparius*).

Common Rest Harrow (*Ononis arvensis*).

Rest Harrow. Var. *procurrens* and *spinosa*.

The common kind is very abundant, and is often interspersed with the other varieties.

Kidney Vetch, or Lady's Finger (*Anthyllis vulneraria*).

Bitter Vetch (*Orobis tuberosa*).

Rough-podded Vetchling (*Lathyrus hirsutus*). Scarce, but is occasionally found between Southport and Scarisbrick. G.

Meadow Vetchling (*Lathyrus pratensis*).

Tufted Vetch (*Vicia cracca*).

Common Vetch (*Vicia sativa*). Sides of fields and footpaths.

And where profuse the WOOD-VETCH clings
Round ash and elm in verdant rings,
Its pale and azure-pencilled flower
Should canopy Titania's bower.

Sir WALTER SCOTT.

Narrow-leaved Crimson Vetch (*Vicia angustifolia*).

Spring Vetch (*Vicia lathyroides*). Not plentiful, but occasionally found by waysides.

Hairy Tine-Tare (*Vicia hirsuta*).

Smooth Tine-Tare (*Vicia tetrasperma*).

Bush Vetch (*Vicia sepium*). W.

Common Birdsfoot (*Ornithopus perpusillus*).

Saintfoin (*Onobrychis sativa*). Abundant on some of the sand-hills north and south of the town.

Yellow Melilot (*Melilotus officinalis*).

White-flowered Melilot (*Melilotus leucantha*).

Both kinds abundant by the road-sides, from Crossens to Banks.

White Trefoil, or Dutch Clover (*Trifolium repens*).

Subterraneous Trefoil (*Trifolium subterraneum*). This species acquires its name from the seed vessel after the flowering is past burying itself in the soil, where the seeds often vegetate whilst adhering to the parent plant. Is sparingly found, mostly in dry elevated situations. G.

Common Purple Trefoil, or Clover (*Trifolium pratense*).

Zigzag Trefoil (*Trifolium medium*). Very abundant; may be known from the preceding by its long narrow leaves, and zigzag mode of growth.

Hare's-foot Trefoil (*Trifolium arvense*).

Strawberry Trefoil (*Trifolium fragiferum*).

Hop Trefoil (*Trifolium procumbens*).

Lesser Yellow Trefoil (*Trifolium filiforme*). G.

Bird's-foot Trefoil (*Lotus corniculatus*). Very abundant.

Greater Birds's-foot Trefoil (*Lotus major*). Common, growing very large by the sides of watery places.

Black Medick, or Nonsuch (*Medicago lupulina*).

Spotted Medick (*Medicago maculata*).

Both frequent.

Square-stalked St. John's Wort (*Hypericum quadrangulum*).

By the sides of ditches.

Perforated St. John's Wort (*Hypericum perforatum*). On banks and shady places. It obtains its name not from being perforated, but from being covered all over with pellucid spots which give it the appearance of being so.

Imperforate St. John's Wort (*Hypericum dubium*). Not uncommon, but less plentiful than the preceding.

Small Upright St. John's Wort (*Hypericum pulchrum*). On banks.

Trailing St. John's Wort (*Hypericum humifusum*).

Marsh St. John's Wort (*Hypericum elodes*). Common in Martin Mere, and on the mosses about Scarisbrick and Halsall.

Yellow Goat's-beard (*Tragopogon pratensis*).

Bristly Ox-tongue (*Helminthia echinoides*). Occasionally found by the sides of the railway from Ainsdale to Formby. G.

Corn Sow-Thistle (*Sonchus arvensis*).

Common Sow-Thistle (*Sonchus oleraceus*). Very common.

Ivy-leaved Wall Lettuce (*Lactuca muralis*). On the skirts of woods and plantations, sometimes on old walls; not abundant.

Common Dandelion (*Leontodon Taraxacum*).

Marsh Dandelion (*Leontodon palustre*).

Rough Hawk-bit (*Apargia hispida*). Abundant on banks and dry places.

Dandelion Hawk-bit (*Apargia autumnalis*). Occasionally found on the sandhills.

Hairy Thrincia (*Thrincia hirta*). On sandhills and in peaty fields.

Mouse-ear Hawk-weed (*Hieraceum pilosella*).

Narrow-leaved Hawk-weed (*Hieraceum umbellatum*).

Shrubby Broad-leaved Hawk-weed (*Hieraceum boreale*). Not unfrequent in plantations and uncultivated grounds.

Smooth Hawk's-beard (*Crepis virens*).

Long-rooted Cat's-ear (*Hypochaeris radicata*).

Common Nipple-wort (*Lapsana communis*).

Wild Succory, or Chicory (*Cichorium Intybus*). Very common in the south of England; was introduced here some years ago at what obtained the name of the Chicory Farm, on the Scarisbrick road, and though it has ceased to be cultivated for commercial purposes, it is still found in the vicinity.

Common Burdock (*Arctium Lappa*).

Common Burdock. Var. B.

Both varieties are very common.

Musk Thistle (*Carduus nutans*). Very abundant in places where bricks were burnt, in the Scarisbrick road.

Wetted Thistle (*Carduus acanthoides*).

Slender-flowered Thistle (*Carduus tenuiflorus*). Very common, with white and purple flowers.

Milk Thistle (*Carduus marianus*). Found sparingly round Southport.

Spear Plume Thistle (*Cnicus lanceolatus*).

Marsh Plume Thistle (*Cnicus palustris*).

Creeping Plume Thistle (*Cnicus arvensis*). Abundant in meadows and fields, where it is a great pest to the agriculturist.

Meadow Plume Thistle (*Cnicus pratensis*). Common on wet boggy places that are often overflowed, as Martin Mere, and similar situations. G.

Carline Thistle (*Carlina vulgaris*).

Nodding Bur-Marigold (*Bidens cernua*).

Trifid Bur-Marigold (*Bidens tripartita*).

Both species very common by the sides of ditches and water-courses.

Sea Wormwood (*Artemisia maritima*). Very abundant.

Common Wormwood (*Artemisia Absinthium*).

Mug-wort (*Artemisia vulgaris*).

Marsh Cudweed (*Gnaphalium uliginosum*).

Least Cudweed (*Filago minima*). Dry sandy places; common.

Narrow-leaved Cudweed (*Filago Gallica*). Sandy places, on banks between Churchtown and Crossens. G.

Common Cudweed (*Filago Germanica*). On barren places where the turf has been removed, and road sides; common.

Blue Flea-bane (*Erigeron acris*).

Butter-bur (*Petasites vulgaris*). Common by the sides of streams, and in fields that have been reclaimed from bogs.

Coltsfoot (*Tussilago Farfara*).

Common Groundsel (*Senecio vulgaris*).

Stinking Groundsel (*Senecio viscosus*). G.

Mountain Groundsel (*Senecio sylvaticus*). On dry places in the sandhills.

Hoary Rag-wort (*Senecio tenuifolius*).

Common Rag-wort (*Senecio Jacobææ*).

Marsh Rag-wort (*Senecio aquaticus*).

Sea Starwort (*Aster Tripolium*).

Golden Rod (*Solidago Virgaurea*). Frequent in uncultivated places and neglected fields.

Common Flea-bane (*Pulicaria dysenterica*).

Common Daisy (*Bellis perennis*).

On waste and woodland, rock and plain,
Its humble buds unheeded rise;
The rose has but a summer's reign,
The DAISY never dies.

Great White Ox-eye (*Chrysanthemum leucanthemum*).

Corn Marigold, or Yellow Ox-eye (*Chrysanthemum segetum*).

Abundant in uncultivated fields.

Common Feverfew (*Matricaria Parthenium*).

Corn Feverfew (*Matricaria inodora*).

Wild Chamomile (*Matricaria Chamomilla*). Found occasionally.

Corn Chamomile (*Anthemis arvensis*). In fields and waysides; not frequent.

Stinking Chamomile, or May-weed (*Anthemis Cotula*).

Sneeze-wort Yarrow (*Achillea ptarmica*). Abundant in wet places.

Common Yarrow, or Milfoil (*Achillea millefolium*).

Brown Knap-weed (*Centaurea jacea*). Scarce. G.

Black Knap-weed (*Centaurea nigra*).

Corn Blue-bottle (*Centaurea Cyanus*).

Greater Knap-weed (*Centaurea scabiosa*). Barren places, road sides, and uncultivated places; common.

Green-winged Meadow Orchis (*Orchis Morio*).

Early Purple Orchis (*Orchis mascula*).

Marsh Orchis (*Orchis latifolia*). Very abundant in all the damp places about the sandhills, varying in colour from white to a deep purple.

Spotted Palmate Orchis (*Orchis maculata*). Common; in great variety of colour.

Fragrant Gymnadenia (*Gymnadenia conopsea*). The only place where this beautiful plant has been met with, is in a field near the Ash Tree, where it was found by James Glover, Esq. G.

Green, or Frog Habenaria (*Habenaria viridis*). Rare. G.

Butterfly Habenaria (*Habenaria bifolia*). Very abundant in moist spongy bogs, Martin Mere, and the mosses about Scarisbrick.

Fragrant Lady's Tresses (*Neottia spiralis*). This elegant little plant is found in considerable abundance, growing on the slopes of hillocks between Southport and Birkdale; it often does not make its appearance for two or three consecutive years, and then it is met with in great profusion. Its scent is very fine, and in warm close evenings may be called powerful; it is easy of cultivation, requiring less water than most of its congeners.

Common Twayblade (*Listera ovata*).

Broad-leaved Heleborine (*Epipactis latifolia*). Found in the same places, but less abundant than the following species.

Ovate-leaved Heleborine (*Epipactis ovata*).

Marsh Heleborine (*Epipactis palustris*). Abundant in all the marshy places around Southport; it varies in colour from sullied white to a deep purple, and from two or three inches in height to a foot.

Sun Spurge (*Euphorbia helioscopia*).

Sea Spurge (*Euphorbia paralia*). Abundant on the shore and on the hills round Birkdale.

Portland Spurge (*Euphorbia portlandica*). Found in the same localities and in equal quantities with the last species.

Petty Spurge (*Euphorbia pepus*).

Wood Spurge (*Euphorbia Amygdaloides*). Rare; in plantations both north and south of the town. G.

Water Star-wort (*Callitriche verna*).

Water Star-wort (*Callitriche autumnalis*).

Both kinds abundant in streams and water-courses.

Horned Pond-weed (*Zannichellia palustris*).

Grass-wrack (*Zostera marina*). This is found at times in large quantities on the shore, but evidently not growing in the vicinity. It mostly appears after strong westerly winds, and is probably brought from the Isle of Man, on the north and east of which it is very abundant.

Great Cat's-tail, or Reed-mace (*Typha latifolia*). Abundant in ponds and slow streams.

Lesser Cat's-tail, or Reed-mace (*Typha angustifolia*).

Branched Bur-Reed (*Sparganium ramosum*).

Unbranched Bur-Reed (*Sparganium simplex*). Common, but less abundant than the preceding.

Sea Carex (*Carex arenaria*).

Soft Brown Carex (*Carex intermedia*).

Little Prickly Carex (*Carex stellulata*).

- Oval-spiked Carex (*Carex ovalis*). In bogs; abundant. G.
Mud Carex (*Carex limosa*)?
Cyperus-like Carex (*Carex pseudo-cyperus*). Abundant in
most streams round Southport.
Pale Carex (*Carex pallescens*).
Yellow Carex (*Carex flava*).
Oederian Carex (*Carex Oederi*).
Tawny Carex (*Carex fulva*). G.
Vernal Carex (*Carex precox*).
Glaucous Heath Carex (*Carex recurva*).
Slender-beaked Bottled Carex (*Carex ampullacea*).
Creeping Separate-headed Carex (*Carex dioica*). W.
Flea Carex (*Carex pulicaris*). W.
White Carex (*Carex curta*). W.
Distant-spiked Carex (*Carex remota*). W.
Great Carex (*Carex vulpina*). W.
Great-panicled Carex (*Carex paniculata*). W.
Common Carex (*Carex Goodenovii*). W.
Long-bracteated Carex (*Carex extensa*). W.
Loose Carex (*Carex distans*).
Pink-leaved Carex (*Carex panicea*). W.
Pendulous Wood Carex (*Carex sylvatica*). W.
Great Pendulous Carex (*Carex pendula*). W.
Round-headed Carex (*Carex pilulifera*). W.
Hairy Carex (*Carex hirta*). W.
Lesser Common Carex (*Carex paludosa*). W.

The Carices generally affect wet situations, and are to be found abundantly in most of the bogs and marshy places around Southport, as also on the shore and low sandhills bordering the shore.

Plantain Shore-weed (*Littorella lacustris*).
Common Alder (*Alnus glutinosa*).
Small Stinging Nettle (*Urtica urens*).
Great Stinging Nettle (*Urtica dioica*).
Roman Nettle (*Urtica pilulifera*). A.
Common Horn-wort (*Ceratophyllum demersum*).
Unarmed Horn-wort (*Ceratophyllum submersum*).
Spiked Water Milfoil (*Myriophyllum spicatum*).
Whorled Water Milfoil (*Myriophyllum verticillatum*).

Both species are occasionally found in stagnant waters.

Spotted Arum (*Arum maculatum*). A.
Salad-Burnet (*Poterium Sanguisorba*).

In moist meadows and reclaimed fields.

Common British Oak (*Quercus Robur*).
Sessile-fruited Oak (*Quercus sessiliflora*).
Beech (*Fagus sylvatica*).
Chestnut (*Castanea vulgaris*).
Common Birch (*Betula alba*).
Hornbeam (*Carpinus Betulus*).

The forest trees in this list are not to be found here wild ;
but with scarcely an exception are in a state of cultivation.

The Crab Apple and the Mountain Ash are common
in plantations ; but cannot be considered as natives of
Southport.

Common Hazel Nut (*Corylus Avellana*).

Hedges and coppices.

Almond-leaved Willow (*Salix amygdalina*).
Crack Willow (*Salix fragilis*).
Common White Willow (*Salix alba*).

Downy Mountain Willow (*Salix arenaria*.)

To name the uses of the WILLOW tribes
 Were useless task. The basket's various forms
 For various purposes of household thrift;
 The wicker chair, of size and shape antique;
 The rocking couch of sleeping infancy;
 These, with unnumbered forms and kinds,
 Give bread to hands unfit for other work.

GRAHAM.

Sweet Gale, or Dutch Myrtle (*Myrica gale*). On the mosses,
 and abundantly about Halsall and Martin Mere.

Hop (*Humulus Lupulus*). Common in hedge rows.

Black Bryony (*Tamus communis*). Abundant in hedge rows.

Great White Poplar (*Populus alba*).

Aspen (*Populus tremula*).

Black Poplar (*Populus nigra*).

Perennial or Dog's Mercury (*Mercurialis perennis*).

Common Frog-bit (*Hydrocharis Morsus-Ranæ*).

Spreading Halberd-leaved Orache (*Atriplex patula*).

Spreading Narrow-leaved Orache (*Atriplex angustifolia*).

Both kinds very abundant in waste places.

Grass-leaved Sea Orache (*Atriplex littoralis*).

Spreading-fruited Orache (*Atriplex rosea*). W.

CHAPTER XV.

Nature never did betray
The heart that loved her; 'tis her privilege
Through all the years of this our life to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men,
Nor greetings where no kindness is, nor all
The dreary intercourse of daily life
Shall e'er prevail against us, or disturb
*Our cheerful faith that all that we behold
Is full of blessings.*

CRYPTOGAMIC PLANTS OF SOUTHPORT.

CRYPTOGAMIC Botany includes those parts of the vegetable world which are called flowerless plants, and are propagated without the aid of seed lobes or cotyledons. They are destitute of true flowers, and are without stamens and pistils. The embryo is a cell, called a spore, containing granular matter, germination taking place in any part of its surface, and not from fixed points. They are divided into two great divisions, called Acrogens and Thallogens.

The Acrogens are the most advanced of the flowerless plants, and from recent observations, the existence of sexuality among them is highly probable. They are divided into (1)

the Equisetaceæ, or Horse-tails; (2) the Filices, or Ferns; (3) the Lycopodiaceæ, or Club-mosses; (4) the Marsiliaceæ, or Pepper-worts; (5) the Musci, or Mosses; and (6) the Hepaticæ, or Liver-worts.

The Thallogens have neither stem nor leaves, and are reproduced by spores. They constitute the lowest forms of vegetable life, and sometimes it is doubtful whether they belong to the botanist or the zoologist. They are divided into three orders—(1) the Lichens; (2) the Fungi, or Mushrooms; and (3) the Algæ, or Seaweeds. The species which these include are almost innumerable.

FERNS AND FERN ALLIES.

Common Polypody (*Polypodium vulgare*). On banks, trunks of trees, and old walls; common.

Male Shield Fern (*Aspidium filix-mas*). Common on banks, and in woods and coppices.

Prickly-toothed Shield Fern (*Aspidium spinulosum*).

Spreading-leaved Shield Fern (*Aspidium dilatatum*).

Lady Fern, or Female Spleen-wort (*Asplenium filix-femina*).

Where the copsewood is the greenest,
Where the fountain glistens sheenest,
Where the morning dew lies longest,
There the LADY-FERN grows strongest.

All these species are often found growing together on banks, particularly on the shady sides of ditches and cuttings through the mosses. They abound in the vicinity of Martin Mere, Scarisbrick, and Halsall.

Common Brake, or Bracken (*Pteris aquilina*).

Hard Fern (*Blechnum boreale*). On banks about Formby and Altcar.

Osmund-Royal, or Flowering Fern (*Osmunda regalis*). Grows abundantly on the sides of cuttings through the mosses, and by the road side from Southport to Scarisbrick, and largely in the mosses about Halsall.

Common Moon-wort (*Botrychium Lunaria*).

Adder's-tongue (*Ophioglossum vulgatum*).

Lesser Alpine Club-moss (*Lycopodium selaginoides*).

Corn Horse-tail (*Equisetum arvense*).

Smooth Naked Horse-tail (*Equisetum limosum*).

Marsh Horse-tail (*Equisetum palustre*).

Rough Horse-tail (*Equisetum hyemale*).

Variegated Rough Horse-tail (*Equisetum variegatum*).

All these species are found in moist places; some grow in deep water, sending their long roots far into the mud; others possess so much flint in their composition that they are used for polishing both wood and metal.

MOSSES.

Pottia Heimii. Common on the shore.

Bryum atro-purpureum. Not rare.

Bryum Marratii. Very abundant on the south shore. April, 1861. B. C.

Bryum colyphyllum. Bullrush slack and other moist hollows among the sandhills, at Birkdale.

Bryum Warneum. With the last species.

Bryum lacustre. Mr. Wilson re-discovered this moss, which had not been found since 1801, in one or two hollows among the south sandhills, July, 1860.

Bryum uliginosum. By the side of a ditch, Birkdale Park. J. Nowell.

Bryum neodamense. This species, new to the English flora, was discovered by Mr. Wilson, last autumn (1860), near the Bullrush slack.

Bryum bimum. Common in bogs.

Bryum roseum. Near Birkdale Station.

Mnium cuspidatum. Near Birkdale Station.

Mnium affine. Wet places, Birkdale.

Meesia uliginosa. Moist flats, Birkdale.

Amblyodon dealbatus. With the last.

Catoscopium nigratum. Sides of ditches, and moist places among the sandhills.

Hypnum albicans. Common.

Hypnum salubrosum. Flats among the sandhills; rare.

Hypnum Megapolitanum. Near Birkdale Church. B. C. North shore; rare. J. Nowell.

Hypnum adunum. This and the following occur at Bullrush slack, and other boggy places.

Hypnum revoleans.

Hypnum Kneiffii.

Hypnum Lycopodoides.

Hypnum speciosum. Near Birkdale Station; rare.

Hypnum polygamum. Abundant.

Hypnum giganteum. Wet places; rare.

Hypnum elodes. Bogs, &c.

Jungermania compressa. In fruit near Ainsdale Station, April, 1861. J. Nowell.

Preissia commutata. Moist places.

Blyttia Lyellii. Growing with the following in moist hollows.

Petalophyllum Ralfsii.

CHAPTER XVI.

————— “Oh! thou most courted, most despised,
And but in absence only prized,
These are thy walks, oh sacred health!
The monarch's bliss, the beggar's wealth;
The seasoning of all good below;
The sovereign friend in joy and woe.”

SUGGESTIONS FOR EXCURSIONS.

ALTHOUGH not so highly favoured as many towns, yet there are, within a tolerably short journey, some few places well worthy a visit from any sojourner in Southport, and to these, the mode of reaching them, and their principal objects of attraction, we purpose devoting a few brief notices.

CHURCHTOWN.—This antiquated village possesses no particular attraction of itself; nevertheless, no one should plead guilty to the charge of not having visited it. To the invalid the ever-useful donkey-carriage presents an easy mode of travelling the two miles which it is distant from Southport. To those who wish to “run and read,” a well-appointed omnibus does the distance in some half hour, stopping alternately at the good and old-established hostelrys of the Hesketh

Arms and the Bold Arms; while to the pedestrian three or four distinct paths are open, all equally pleasant: the first of these lies directly in continuation of Lord-street, and leads through a somewhat sinuous valley between ranges of sand-hills; the valley itself being carpeted with verdure, and abounding with many of the plants peculiar to such a position. Gaily-coloured butterflies and sand lizards abound in this locality, and countless numbers of rabbits at sundown disport themselves in all directions. There is no danger of not finding what we will assume is to be the terminus of the walk, for the spire of the venerable church is an excellent landmark. On the route several cottages will be passed, and by the "click, click" which falls upon the ear, we may know that the loom is at work—and most probably on some choice and elegant piece of satin, which ere long may encircle the graceful form of some of our famed Lancashire Witches. The church has recently been considerably enlarged, and a memorial window—as a token of respect to the Rev. Charles Hesketh, the rector—has been placed therein, at a cost of upwards of one hundred pounds. It has nothing remarkable of a monumental character, save a marble tablet by Nollekens, to the memory of one of the Hesketh family. The churchyard abounds in numerous instances of the longevity of the inhabitants. A new school has been erected in connection with this church, on a large scale, and will repay an inspection. There are some other places of worship in the village, none of which, however, call for any special remark. A large brick mansion, some distance from the church, is known as Meols Hall, once the seat of the Heskeths, now occupied by a flourishing agriculturalist. A fair, and mock

mayoralty, is held here on the Monday and Tuesday nearest the 20th of August. Adjacent to the church are situated some celebrated strawberry gardens, which are noted for the almost fabulous quantities of fine fruit they produce in favourable seasons, and also as being held by the immediate descendants of Mr. Sutton, before mentioned as the founder of Southport. These gardens are visited by great numbers of persons during the fruit season, and every attention and accommodation is provided for the public, whether their inclinations lead to "strawberries and cream," or merely to the possession of a choice bouquet of real old-fashioned flowers—which

"Grow among balm, and rosemary, and rue."

"The shining pansy, trimmed with golden lace;
The tall topped lark-heels, feathered thick with flowers;
The woodbine, climbing o'er the doors in bowers;
The linden tufts, of many a mottled hue;
The pale pink pea, and monkshood darkly blue;
The white and purple gillyflowers, that stay
Lingering in blossom summer half away;
The single blood walls, of a luscious smell,
Old-fashioned flowers which housewives love so well;
The columbines, stone blue, or deep nut brown,
Their honeycomb-like blossoms hanging down;
Each cottage garden's fond adopted child,
Though heath still claims them, where they yet grow wild;
With marjoram knots, sweet briar, and ribbon grass,
And lavender, the choice of every lass."

Further distant in the same direction is CROSSENS—formerly Cross-sands—having a church and resident incumbent; and still further is BANKS—a few scattered domiciles—so called from

the banks or embankments erected to keep off the encroachments of the sea. To the botanist we cannot too highly recommend the walk along the banks from Crossens towards Southport. In addition to the delightful sea breeze, he will find plenty of occupation on the slopes, which are the *habitat* of hundreds of wild flowers and mosses.

BIRKDALE.—This rapidly increasing suburb of Southport consists principally of detached or semi-detached villas, and is fast rising into favour amongst permanent residents. The air is somewhat more bracing than in Southport, and is well-suited for persons in good health. A cricket club is open in the summer months, which visitors may join on certain conditions, and a beautiful bowling-green is attached to the Park Hotel, which is the terminus of a visitor's ramble (except by rail) in that direction. An excellent asphalted road forms a pleasant means of reaching Birkdale. All trains stop at the station, to take up and set down passengers. The distance by railway is one mile, by road a little more.

FORMBY.—This village is distant from Southport about eight miles, by the railway; it may also be reached by walking or driving along the sands, which are perfectly safe. A church has been recently erected near an ancient burial ground in the sandhills. The dates of some of the primitive head-stones are very remote. Formby Hall is occupied by Miss Formby, the descendant of a very ancient family; it was built in the fifteenth century.

INCE BLUNDELL.—This place is justly noted. Ince Hall, about ten miles from Southport, (by the Crosby Railway,) was formerly occupied by the descendants of a family who had been lords of the manor from the time of the conquest. The

estates are now held by Thomas Weld Blundell, Esq., to whom they were bequeathed by Charles Blundell, Esq. In the grounds is a model of the Pantheon at Rome, but only two-thirds the size; within it is placed a rare and valuable assemblage of ancient statues, busts, bas-relievos, sarcophagi, urns, and other valuables; also, a large collection of pictures. The whole of these were accumulated by Henry Blundell, Esq., who also erected the building in which they are contained. It is right to observe, that permission to view this most interesting exhibition is only to be obtained under special circumstances.

HALSALL AND LYDIATE ABBEY.—In a south-easterly direction from Southport, distant respectively about six miles and nine miles, are the villages of Halsall and Lydiate. They can only be reached by special conveyances, but both may well form a summer day's excursion. Leaving the Ormskirk road, before reaching the bridge crossing the canal, we emerge into a beautiful lane, bounded by well-cultivated fields, and luxuriant though not lofty trees. Before reaching Halsall Church, whose spire has been a conspicuous object on the journey, some fragments of an ancient ecclesiastical building may be seen in the grounds attached to the rectory. The church itself contains several monumental marbles and effigies. The village of Halsall contains nothing else worthy of note, except Halsall Hall, a large old-fashioned brick building, occupying the site of an ancient family seat of the Halsalls. Proceeding onwards towards Lydiate the road for some distance is on the red sandstone rock, which here crops out to the surface, and quarries have been formed for working the same. Lydiate Hall, on the right of the road, is an ancient building with wood and plastered front, painted in ornamental designs—black

and white. According to Baines, "one of the upper rooms has been used as a Catholic chapel ever since the Reformation; for this purpose the edifice called Lydiate Abbey, a picturesque ruin, a little south of the hall, was intended by its founder, one of the Irelands. Over the arch of the porch is their coat of arms, a chevrin between six fleurs-de-lis, and on the spring of the arch are the initials of John Ireland, who lived in the commencement of the reign of Henry VIII. The remains consist of a castellated tower, with pinnacles and buttresses, partly wrapped in ivy. The parapet of the south wall is castellated, and beneath are buttresses separating the four windows of the south side, which are divided by chipstones into squares with arched heads. In several parts of the east window fragments of glass have been found in the mortar, whence it may be inferred that the chapel was finished, in opposition to the opinion which has been expressed, that it was discontinued. The interior is overgrown with brambles and grass, amongst which two or three decayed gravestones are discerned, bearing inscriptions which are now scarcely legible." A main stem of the ivy, which so beautifully mantles this interesting ruin, was divided by some Vandal very recently. Immediately adjoining the Abbey is a burial ground, more recently formed, for the Catholic population of the district. A new and elaborately built chapel has also been lately erected, principally through the munificence of the late Charles Blundell, Esq., of Ince Hall. Beyond Lydiate, and still nearer Liverpool, is SEFTON, and its ancient church, said to have been erected upwards of seven hundred years, and containing a number of monuments to the Molyneux family. On the west of Sefton are the villages of CROSBY and WATERLOO.

BURSCOUGH.—Distant about one and a half miles from Ormskirk, are the ruins of the once famous Abbey or Priory of Burscough: very little, however, remain standing; they are situated in a meadow, on the left of the line of railway, on the route to Ormskirk. This was for a long period the burial place of the Derby family.

LATHOM.—This interesting locality may be visited either *via* Ormskirk, distant three miles, or by alighting at Newburgh Station, on the Manchester line of railway, from which it is a pleasant walking distance. The route to the park takes the visiter through Lathom Wood—a most agreeable change to the pent-up denizens of our manufacturing towns—with its lofty elms, beeches, and sycamores; in the wood is the site of an old stone quarry, still, however, occasionally worked; but the ivy has completely covered the engine house, and converted the otherwise smoke-begrimed building into a fitting ornament for this secluded dell. A stream runs through the wood, crossed by a rustic bridge, in the interstices of which grow the beautiful little *Asplenium-ruta-muraria*, also the *Scolopendron*; indeed, there is ample work for the botanist, who may be sure of securing a well-filled vasculum. Large iron gates separate the park from the wood, and Lathom House may be seen at a short distance. The present mansion, which has recently been re-modelled, is not the Lathom House so well-known by its heroic defence, by the celebrated Countess of Derby, in 1644—that mansion having been razed in the last century. The siege of Lathom continued from 27th of February, in that year, until the 27th of May, the besiegers losing 500 killed and 140 wounded, whilst the besieged only lost six men. In the following year, however, the siege was again renewed, and

after a gallant and successful stand under Colonel Rostorne, the garrison were obliged to succumb, their ammunition being all expended. "In 1714, this estate was transferred by marriage to Lord Ashburnham, by whom it was sold to Mr. Henry Furnese, who, in 1724, disposed of it to Sir Thomas Bootle, Knight, of Melling, in this county. His niece, and heiress, married Richard Wilbraham, Esq., of Rode Hall, in Cheshire." The estate is now in the possession Lord Skelmersdale, who succeeded to the title of his grandfather when a minor. The park was the scene of great rejoicings in 1858, on the occasion of his lordship coming of age. If the visiter passes through the park, the walk may be prolonged to Ormskirk, noted principally for the irregularity of its church having both a spire and a steeple—popularly, but, no doubt incorrectly, accounted for, as the work of two maiden ladies, who each embellished the church after their own style of architecture. The more probable theory, however, is, that the church originally possessed a spire, and that the huge tower (nine yards square inside) was erected to place therein a portion of the bells removed from Burscough Priory at its suppression. According to an inscription, on a brass plate, within the church, a family named Mosock, had had their burial place there for 385 years. This is dated 1661. The ancestors of the present Earl of Derby have also, for a lengthy period, had their burial place within this edifice, though, we believe, no more of the family will be interred therein. On the high road from Ormskirk to Southport, about three or four miles from the former, are the well, reservoir, and works of the Southport Waterworks Company. An order, easily obtainable, will be required to get admission; but they are

well worthy of a visit, from their compactness, and as being one of the most modern specimens of hydraulic engineering.

RIVINGTON PIKE AND ITS LAKES.—Although more distant from Southport than the places previously named, yet, as the excursion may easily be made in a day, it may fairly be within our scope to introduce Rivington Pike and its no less famous Lakes, amongst the objects of interest to our visitors. Rivington lies east from Southport, and probably the best mode of reaching it is by rail to Bolton; thence on the Bolton and Preston line to Adlington, distant about seven miles. From hence, by a beautiful and gradual ascent, we proceed towards the “Pike;” having walked some three miles, we at length reach the Great Anglezark Lake or reservoir, the first of the series of these lakes, which, as is well known, supply Liverpool with water, by means of huge iron pipes reaching from hence to that town, some forty miles. The Anglezark is about one mile and three quarters in length, and bears a great resemblance to Windermere, the embankment causing the lake to appear in a valley. It varies very materially in width, but is altogether an immense sheet of water, and a stranger would little suppose that it was an artificial production. A road crosses the foot of the Anglezark, and also the next reservoir, which is smaller than the first, dividing the mass of water into three parts, all however connected by massive stone-work channels or weirs. At the head of the central lake is the elegant mansion of Peter Martin, Esq., of Bolton, commanding a most extensive view. A little island opposite is the retreat of sundry aquatic birds, including some fine swans. Reaching the division between the second and third lakes, a good wide road takes over the valley to the “Pike” side, and

immediately before us is Rivington Church. This ancient edifice was built by Richard Pilkington, lord of the manor of Rivington, whose third son, James, was master of St. John's College, Cambridge, and one of the six divines for correcting the Book of Common Prayer; for which and other services he was, in 1560, created Bishop of Durham, being its first Protestant prelate. He died at Auckland, January 23rd, 1575, in the 55th year of his age. This bishop founded and endowed the free school of Queen Elizabeth at Rivington with lands and rents. The school (near the church) is for the "bringing up, teaching, and instructing children and youth in grammar and other good learning, to continue for ever." And by the terms of the letters patent, the school is open to "all our faithful and liege people, wheresoever they be." The path to the church is steep. A detached little building in the churchyard contains the bell or bells of the church. Higher up the hill is a Unitarian Chapel, and the most rural of burial grounds; many of the graves have gay little parterres on their summits, and the whole indeed seems "a place for the weary to be at rest." Leaving the chapel to the left, a road across the side of the hill leads to a most romantic spot, known as "Shaw's Clough." This is a hilly gorge, overhung with large trees, whose roots have insinuated themselves into the interstices of the shaly rock; many of the trees have been thrown down, tearing away with them large portions of the rock itself into the channel below. Adown this gorge runs a streamlet of the purest water, and the margins of the pools are an entangled mass of wild flowers, ferns, and mosses. The Golden Saxifrage (*Chrysoplenium oppositifolium*) is especially abundant in the early part of the summer; also the Lesser

Celandine (*Ranunculus ficaria*), bearing its starlike blossoms by thousands—

————— “The first gilt thing
That wears the trembling pearls of spring.”

The Wood Anemone (*Anemone nemorosa*), with its white solitary flowers, slightly purplish on the exterior, literally covers the hill side and portions of the “Clough.” Here also is truly the Wood Sorrel’s home (*Oxalis acetosella*) with its delicate

————— “Flowers shrinking from the chilly night,
Drooping and shut up; but with fair morning’s touch,
Rise on their stems all open and upright.”

Proceeding up the glen we come upon a little waterfall, streaming down from the cleft rocks above, the water bright and shining as molten silver, and, when falling on the shelving rocks below, seeming like pounded diamonds, so glittering in the sun’s rays, which manage here and there to obtain admittance through the dense mass of foliage above and around us. To gain the summit of the “Clough” almost requires the agility of an Alpine goat, it is so precipitous. Having reached the top of the hill, the pedestrian may, before ascending the “Pike,” take his rest at a modest-looking hostelry, called by the painter, the “Sportsman’s Arms.” Hence we can reach the hill, or “Pike,” in about twenty minutes. From here, on a clear day, the prospect is most extensive, and not the least interesting is the splendid range of lakes at our feet, computed to contain 120 days’ consumption of water, at the rate of 24,000,000 gallons per diem! From this point there is also an excellent view of the filtering beds of the waterworks. Northward and eastward is a large tract

of wild moorland. On the summit of the Pike is a square stone tower, bearing date 1733. Descending the hill, we pass Jacob's Well, which, from overflowing, causes the vicinity to partake of the nature of a swamp. If not deemed too lengthy, the pedestrian may return to Southport, *via* Horwich, to Lostock Junction, a pleasant but rather circuitous walk after the day's ramble, which, we believe, will be found one of the most interesting in this locality, should the weather prove favourable.*

ASHURST BEACON AND PARBOLD HILL.—The route to these places is by the Manchester Railway to Newburgh. Ashurst Beacon is on the right of the line of rail; Parbold on the left. At the foot of Ashurst is the river Douglas, and the village of DALTON. Ashurst Hall, built some time in the fifteenth century, is a large building now used as a farm house. It was, in 1751, bought by Sir Thomas Bootle, of Lathom, ancestor of the present Lord Skelmersdale. From the top of the hill there is a most extensive and varied prospect. In the time of the French revolutionary war, according to Baines, a beacon was erected on the high hill of Ashurst, when the danger of French invasion was proclaimed by the prime minister to be so near, that we were not to calculate the time of the enemy's arrival by months and weeks, but by days and hours, and men were placed day and night upon the watch-tower to announce the landing of the invader. Fortunately the torch was never lighted, and the women of England, who for seven centuries have never seen the smoke of the enemy's camp, were not doomed to see the light even of their own beacon. The

* Abbreviated from a previously published account by the Writer.

building is formed of strong masonry, with the entire absence of any material in its composition that is inflammable.

PARBOLD HILL is also surmounted by a stone structure, and though inferior in altitude to Ashurst, nevertheless commands an extensive prospect. Here are large stone quarries, by which Southport is extensively supplied. At the foot of the hill runs the Leeds and Liverpool Canal. At some little distance from Parbold is Wrightington Hall. The park abounds with game and deer, and is renowned for its beautiful scenery.

LYTHAM AND BLACKPOOL, &c.—These rival watering places, situated at the north of the Ribble, claim a passing notice, inasmuch as now that the Southport Pier to low water is completed, they will both reasonably fall within the range of a day's excursion, should any spirited steamboat proprietors think fit to make use of the facilities which the said pier will give for embarking and landing passengers. Lytham consists chiefly, as Southport formerly did, of a main street, running east and west on the banks of the Ribble, which is here of considerable breadth. It contains some excellent inns, numerous lodging-houses, a good market, and a Promenade. The shore, unlike that of Southport, is of a pebbly character, by no means so desirable as a sandy bathing ground.

BLACKPOOL dates its origin as a sea-bathing place somewhere about one hundred years ago. It is exposed to the open sea, which recedes but a short distance from the foot of the Promenade. Little can be said in favour of the older portions of the town, though improvements are proceeding; but the modern mansions, villas, and buildings are worthy of admiration. There is a great influx of visitors during the season, which, however, is by no means so lengthy as our own.

Further to the north we have the still more modern watering-place of FLEETWOOD-UPON-WYRE, also having considerable claims on our notice, both as a place of resort for bathing, and also commercial purposes; and—but we must travel no further, or we shall take the round of the county, for in these days of railway speed where may we not go to and return from within the range of a long summer's day?

COMPARATIVE HUMIDITY AND TEMPERATURE OF SEVERAL PLACES, FOR ONE YEAR.

	Mean Temp.	Dew Point.		Mean Temp.	Dew Point.
<i>July.</i>			<i>January.</i>		
Exeter	64.7	56.8	Clifton	41.5	37.4
Manchester	67.9	57.5	Manchester	40.6	37.
York	64.5	55.7	Alderley Edge	39.3	36.1
Southport	66.5	62.9	Bowdon	40.2	36.1
<i>August.</i>			York	39.1	36.6
Exeter	60.5	54.	Southport	41.	39.2
Manchester	60.9	56.7	<i>February.</i>		
Leeds	60.8	51.8	Clifton	33.4	28.6
York	59.1	53.	Manchester	32.8	31.2
Southport	66.5	64.	Alderley Edge	32.1	27.8
<i>September.</i>			Bowdon	33.	29.3
Exeter	55.8	50.	Southport	38.7	36.
Manchester	54.3	48.2	<i>March.</i>		
York	53.	49.	Clifton	38.	32.
Southport	61.1	59.3	Manchester	38.2	34.7
<i>October.</i>			Alderley Edge	36.4	31.5
Exeter	48.	46.9	Southport	44.	42.
Manchester	44.6	40.1	<i>April.</i>		
Alderley Edge	45.	39.8	Clifton	45.3	40.
Bowdon	44.5	39.7	Manchester	45.6	37.2
York	45.5	41.6	Alderley Edge	44.3	36.7
Southport	57.8	54.2	York	45.1	39.9
<i>November.</i>			Southport	51.	47.5
Exeter	48.9	46.6	<i>May.</i>		
Manchester	45.	41.8	Clifton	51.2	43.5
Alderley Edge	44.	40.6	Manchester	51.6	40.5
Bowdon	44.5	41.2	Alderley Edge	49.9	40.2
York	43.5	40.9	Bowdon	52.	41.4
Southport	44.3	43.2	York	49.5	38.6
<i>December.</i>			Southport	57.	51.
Exeter	48.5	44.7	<i>June.</i>		
Manchester	45.2	41.3	Clifton	55.8	50.4
Alderley Edge	44.5	40.3	Manchester	58.6	48.7
Bowdon	45.	41.5	Bowdon	57.8	49.9
York	43.9	40.2	York	56.5	52.4
Southport	47.7	45.4	Southport	65.	59.3

COMPARATIVE RETURNS,

FROM SEVEN DIFFERENT PLACES, OF FALL OF RAIN, COMPARATIVE HUMIDITY, AND MEAN TEMPERATURE, FOR EACH QUARTER OF THE YEAR.

	Quarter of Year.	Mean height of Barometer.	Mean Temperature.	Highest Temperature.	Lowest Temperature.	Dew Point.	Number of days on which Rain fell.	Amount of Rain.
GREENWICH ...	1	29.8	40.	64.	18.	35.	30	4 in.
	2	29.6	51.	78.	28.	45.	36	7.
	3	29.	59.	88.	37.	52.	36	7.
	4	29.	48.	72.	25.	39.	57	6.
SOUTHAMPTON	1	29.8	39.	60.	24.	38.	35	6.
	2	29.6	52.	74.	27.	48.	40	8.
	3	29.4	58.	78.	43.	52.	28	6.
	4	29.7	44.	64.	18.	39.	43	8.
WORTHING	1	29.8	40.	56.	23.	37.	35	6.
	2	29.6	51.	68.	31.	41.	30	7.
	3	29.	59.	80.	43.	52.	24	7.
	4	29.	44.	63.	28.	40.	45	9.
CLIFTON	1	29.9	40.	60.	15.	36.	35	4.
	2	29.6	50.	79.	26.	43.	41	9.
	3	29.6	58.	79.	38.	52.	39	12.
	4	29.	44.	67.	21.	39.	60	7.
ISLE OF MAN ...	1	29.8	41.	55.	19.	38.	49	4.
	2	29.6	49.	70.	27.	42.	36	4.
	3	29.	55.	73.	41.	51.	33	5.
	4	29.5	45.	60.	28.	39.	57	10.
BOWDON	1	29.8	41.	59.	10.	36.	45	6.
	2	—	43.	—	—	—	—	—
	3	—	—	67.	24.	40.	—	6.5
	4	29.	42.	63.	12.	37.	63	9.
SOUTHPORT.....	1	29.5	40.3	62.	30.	37.	21	5.3
	2	29.6	59.4	67.	41.	52.	28	8.3
	3	30.	64.7	90.	49.	58.		4.8
	4	30.2	49.8	64.	25.	44.		7.3

A DAILY REGISTER OF THE
FOR ONE MONTH IN EACH QUARTER, VIZ.

	FEBRUARY.				MAY.		
	Mean Temp.	Dew Point.	Barometer.		Mean Temp.	Dew Point.	Barometer.
1	86	82	80.	Highest temperature on grass during the Night, 46 deg. Lowest do., 20 deg.	47	42	29.1
2	84	80	80.		45	40	29.5
3	89	87	29.7		50	44	29.6
4	46	42	29.5		52	49	29.9
5	46	42	29.8		56	49	80.
6	49	43	29.9		57	50	80.6
7	48	42	29.6		58	52	80.4
8	86	84	80.		63	55	80.4
9	88	83	80.1		51	49	80.4
10	88	84	80.1		59	50	80.3
11	88	85	80.2		61	54	80.3
12	86	82	80.2		56	47	80.
13	88	86	80.3		52	49	29.9
14	87	84	80.1		57	52	29.8
15	88	80	80.2		55	50	29.6
16	88	84	80.2		58	52	29.7
17	86	82	80.2		60	55	29.8
18	88	82	80.2		62	56	29.8
19	84	80	80.		60	53	29.8
20	40	33	80.		63	55	80.1
21	89	83	80.		56	52	29.9
22	40	34	80.		61	55	29.8
23	88	82	29.9		60	55	29.8
24	88	86	80.1		58	52	29.8
25	88	84	80.5		57	50	80.1
26	88	86	80.3		58	51	80.5
27	40	88	80.3		58	45	80.3
28					55	50	80.3
29					62	54	80.3
30					50	54	80.2
31					66	59	81.1

These Tables have been kindly furnished

THERMOMETER AND BAROMETER,

—FEBRUARY, MAY, AUGUST, NOVEMBER.

AUGUST.				NOVEMBER.			
Mean Temp.	Dew Point.	Barometer.		Mean Temp.	Dew Point.	Barometer.	
68	60	30.4	Lowest do., 41 deg.	46	44	30.6	Lowest do., 14 deg.
67	58	30.2		58	51	30.6	
64	62	30.		49	47	30.5	
64	60	30.		49	47	30.5	
66	62	30.		52	49	30.4	
64	58	30.2		45	39	30.6	
68	60	30.5		40	34	30.6	
67	62	30.5		45	43	30.5	
74	63	30.5		44	41	30.5	
73	66	30.4		45	48	30.6	
72	66	30.3	Highest temperature on grass at Night, 55 deg.	48	46	30.5	Highest temperature on grass during night, 36 deg.
73	68	30.2		41	39	30.2	
65	60	33.2		43	41	29.8	
64	59	30.2		41	39	29.7	
62	58	30.2		41	38	29.7	
63	60	30.1		40	37	29.7	
63	60	29.9		41	39	29.8	
69	62	29.9		38	35	29.9	
66	61	29.9		40	37	29.9	
62	55	30.		40	38	30.1	
64	58	30.	Highest temperature on grass at Night, 55 deg.	40	38	30.2	Highest temperature on grass during night, 36 deg.
62	60	30.1		32	28	30.3	
68	64	30.2		29	28	30.3	
62	60	33.3		32	28	30.	
62	58	30.3		39	38	29.5	
61	58	30.3		32	27	29.3	
56	54	30.1		29	27	29.2	
60	54	30.2		40	38	29.2	
58	54	30.1		45	40	29.2	
58	54	29.8		44	43		
60	56	29.8					

by Mr. James Kershaw, Chemist, Southport.

